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The Impact of Early Attachment Experiences on Adolescents' Mental Health and Future Thinking

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Doctorate in Clinical Psychology

University of Edinburgh

August 2014

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Abstract

Background: Attachment theory [Bowlby, J. 1969, 1973, 1980 *Attachment & Loss, Volumes I-III*, London: Hogarth Press] proposes that a person's experiences of care in infancy and childhood lay the foundations for their internal working models of themselves and others. Inconsistent, unpredictable or hostile caregiving can lead individuals to hold negative internal working models which can impact on their mental health later in life. Many looked after and accommodated young people have experienced this type of neglectful or abusive parenting. These experiences of parenting may lead looked after young people to have internal working models of themselves as ineffective and of others as powerful, thus leading them to develop a learned helplessness and a more external locus of control.

Objectives: A systematic review was carried out in order to explore the mechanisms by which the relationship between attachment and depression functions in adolescence. An empirical study aimed to investigate whether young people with negative attachment experiences, those who are looked after and accommodated, have higher levels of depression or a more external locus of control than other young people of the same age and the role these play in their future thinking.

Method: Nineteen papers investigating mediators and moderators of the attachment-depression relationship in adolescence were reviewed. In the empirical study, a group of looked after and a group of non-looked after young people aged 15-18 were asked about their approach and avoidance goals for the future and were asked to rate beliefs in their control over, and likelihood of, achieving these goals.

Results: Evidence was found for a number of mediators of the relationship between attachment and adolescent depression. There were also found to be significant differences between the two groups with differing care histories with regards to levels of depression and locus of control, with looked after young people having higher levels of depression and a more external locus of control. A mediation analysis found that locus of control mediated the relationship between looked after status and future thinking.

Conclusions: A person's attachment history and experiences of care in early childhood can impact on their levels of depression and locus of control. There are a number of factors which mediate or moderate the attachment-depression relationship, most of which can be attributed to an individual's internal working model of either themselves or others. Locus of control plays a critical role in young people's future thinking and professionals working with accommodated adolescents should facilitate these young people to have experiences which will help to increase the internality of their locus of control.

What factors mediate or moderate the relationship between attachment and depression in adolescence? A systematic review

Abstract

Objective: Attachment security has been found to be a significant predictor of depression in adolescence. This review aimed to examine the pathways by which this relationship functions by reviewing studies which have investigated potential mediating or moderating factors.

Method: Studies were included if they investigated mediation and/or moderation of the relationship between attachment and adolescent depression.

Results: A number of cognitive and social factors were found to mediate the attachment-depression relationship. Age was found to be a significant moderator of the relationship but the findings on gender were inconsistent. The findings should be treated with caution, however, as many of the studies reviewed were potentially underpowered.

Conclusions: A model is proposed in which mediating factors were linked to the internal working models of self and others. The need for future research to be carried out in clinical adolescent populations with sample sizes large enough to ensure adequate power was identified.

Keywords

Attachment; depression; adolescence; mediation; moderation

Introduction

Attachment theory (Bowlby, 1969, 1973, 1980) is widely used in clinical practice with children and adolescents to understand and formulate their presenting difficulties. The theory proposes that people's experiences of being cared for by their primary attachment figures

This systematic review is written in accordance with the style guidelines for the journal *Attachment and Human Development* (see Appendix A).

when young influence their development throughout life and that, as people grow older, others, such as friends and romantic partners, come to have roles as attachment figures (Bowlby, 1969, 1973). The theory suggests that the responses infants receive to their attachment behaviours shape the pattern of attachment they develop.

Ainsworth developed the idea of attachment patterns further. Using the Strange Situation paradigm, Ainsworth and her colleagues classified infants as belonging to group A, B or C (Ainsworth, Blehar, Waters & Wall, 1978). Those classified in group B were those categorised as showing a secure attachment to their attachment figure (usually mother). Those showing insecure attachments were divided into two groups, those infants who appeared to avoid their mother on her return following a separation (group A) and those who displayed an ambivalent reaction, with a mixture of seeking proximity and avoiding interaction (group C). These patterns of attachment came to be termed avoidant (group A), secure (group B) and ambivalent or anxious (group C). A fourth group (D), termed disorganised, was later added for those children whose attachment behaviours did not show a consistent pattern.

The relationship between attachment and depression

The relationship between attachment and depression was acknowledged by Bowlby (1980). He highlighted the similarity between his theory and the theories of depression put forward by Beck (1967) and Seligman (1975). Bowlby (1973, 1980) suggested that the availability and consistency of the caregiver shapes a person's internal working model of themselves as lovable and loved or unlovable and unloved and of others as reliable and trustworthy or unreliable and untrustworthy.

Bowlby (1980) argued that these internal working models and their resulting cognitive biases are conceptually similar to the cognitive schema of Beck's (1967) theory of depression. Beck's (1967) theory proposes that people are predisposed to experience depression if they

hold negative attitudes about themselves, the world and their future and suggests these negative beliefs can be activated by adverse events which precipitate a period of depression.

The relationship between attachment and depression continues to be investigated. For example, Roberts, Gotlib and Kassel (1996) found adults with insecure attachments had higher levels of depression than those with a secure attachment pattern. These findings have been replicated by more recent studies (e.g. Gajwani, Patterson and Birchwood, 2013; Vivona, 2000). Researchers have also investigated this relationship in adolescence. For example, Delhaye, Kempenaers, Stroobants, Goossens and Linkowski (2013) found depressed inpatient adolescents were less securely attached than a control group of non-depressed adolescents. Furthermore, Duchesne and Ratelle (2013) found security of attachment at age 11 was related to the trajectory of depression in adolescence. In a recent systematic review, Brumariu and Kerns (2010) concluded that the literature showed a consistent relationship between attachment insecurity and higher levels of depression in adolescence.

Intervening in adolescent depression

Depression in adolescence is increasingly being recognised as a major health issue (Costello, Erkanli & Angold, 2006). The most recent prevalence study of depression in UK adolescents found prevalence to be 2.5% for those aged 13-15 (Ford, Goodman & Meltzer, 2003).

Adolescent depression has been found to be a risk factor for substance misuse and suicide (Birmaher et al., 1996) and depression in adulthood is significantly more common for those who have experienced depression during adolescence (Lewinsohn, Rohde, Klein & Seeley, 1999), with recurrence rates estimated to be 60-70% (Birmaher et al., 1996).

Whilst cognitive behavioural therapies (CBT) have shown comparable effectiveness in adolescents (Brent et al., 2008; Treatment for Adolescents with Depression Study (TADS) Team, 2007) as in adults (Carter et al., 2013), rates of recovery remain relatively low for

both age groups, around 40-50%, and some research has suggested CBT may be less effective than medication for depressed adolescents (TADS Team, 2004). These findings suggest a need for more effective interventions for adolescent depression given the risk factors and recurrence rates for this population.

The research demonstrating a strong and consistent relationship between attachment insecurity and adolescent depression (Brumariu & Kerns, 2010), suggests interventions with an attachment focus may offer an effective approach to treating depressed adolescents. Recent research into the effectiveness of an attachment-based intervention suggested that Attachment-Based Family Therapy may be an effective intervention for treating depression in this age group (Diamond et al., 2012; Israel & Diamond, 2013; Shpigel, Diamond & Diamond, 2012). A greater understanding of the mechanisms by which the attachment-depression relationship functions in adolescence would help to ensure that attachment focussed interventions target the factors most influential in the development of adolescent depression, thus enhancing their effectiveness.

Mediation of the attachment-depression relationship

Although the relationship between attachment and adolescent depression has been well-established, the mechanism by which this relationship functions is not well understood. This question can be examined with the use of mediation analysis, which investigates whether one variable affects another through a third, intervening variable, as shown in Figure 1 (Hayes, 2013). For example, if security of attachment to parents (X) predicted levels of depression in adolescence (Y), part of this effect could be via adolescents' emotion regulation (M). In order to ascertain whether the effects found in the sample are statistically significant, researchers have used a number of tests of mediation (Table 1; Hayes, 2013).

Figure 1. Diagram of mediation.

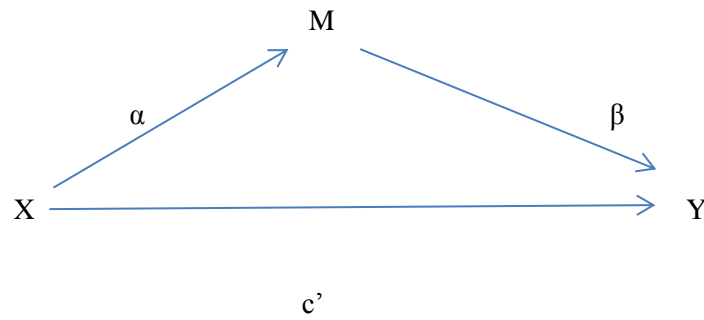


Table 1. Tests of mediation.

Test of mediation	Definition
The causal steps (or Baron and Kenny) approach	Establishes whether 1) X and Y are associated; 2) α is statistically significant; 3) β is statistically significant; 4) M completely or partially mediates the relationship by investigating whether c' is statistically significant.
The Sobel test (or normal theory approach)	Assesses the statistical significance of the indirect effect by dividing the product of the α and β coefficients by their standard error and comparing with the standard normal distribution.
Bootstrapping	Bootstrapping approaches resample the original sample a large number of times (usually 5000-10,000) with replacement and calculate the product of the α and β coefficients for each new sample derived from the original sample. A confidence interval is then derived from ordering these $\alpha\beta$ coefficients to investigate whether or not it includes 0.
Bias-corrected bootstrapping	This bootstrapping approach uses the same method as above but adjusts the upper and lower bounds of the confidence interval according to the proportion of new $\alpha\beta$ values which are less than the original $\alpha\beta$ coefficient.
Structural equation modelling (SEM)	SEM can also be used to test mediated effects. SEM uses multiple regression to investigate the relationships between variables then evaluates how well the model fits the data. (Schumacker & Lomax, 1996)

Research by Wei and colleagues has highlighted a number of mediating factors between attachment and depression in adults, including dependence and self-criticism (Cantazaro & Wei, 2010), capacity for self-reinforcement or need for reassurance (Wei, Mallinckrodt,

Larson & Zakalik, 2005), social self-efficacy (Wei, Russell & Zakalik, 2005), psychological needs satisfaction (Wei, Shaffer, Young & Zakalik, 2005), and coping (Wei, Heppner, Russell & Young, 2006). This research also found that mediation differed between the different insecure patterns, either with regards to which factor acted as mediator (e.g. Wei, Russell & Zakalik, 2005) or whether the relationship was fully or partially mediated (e.g. Cantazaro & Wei, 2010). This review seeks to identify whether the same factors mediate the relationship between attachment and depression in adolescents and whether this differs for different patterns of attachment.

Moderation of the attachment-depression relationship

In addition to this potential for mediation of the attachment-depression relationship, Brumariu and Kerns (2010) suggested the effect of attachment on internalizing problems is likely to be moderated by other factors. Moderation refers to the extent to which the effect of one variable on another differs according to the value of a third variable. For example, if security of attachment had an effect on levels of depression for girls but not boys, the effect of attachment on adolescent depression would be moderated by gender. Moderation is investigated through analysis of the interaction terms in ANOVA or regression models (Hayes, 2013).

Brumariu and Kerns (2010) found no consistent evidence of moderating factors. However, the scope of the review was considerably broader than that reported here, covering all internalizing symptoms in childhood and adolescence and few studies at that time had focused on the moderation of the attachment-depression relationship in adolescence. It may be, therefore, that the heterogeneity of studies prevented the discovery of consistent moderators. It is hoped that, by focusing solely on adolescent depression and including more recent studies, more consistent findings may be evident.

Aims of the review

The purpose of this review is to investigate the factors which mediate or moderate the relationship between attachment and depression in adolescence. It aims to investigate the following questions: (a) is there consistent evidence supporting the role of one or more mediating factors? (b) is there consistent evidence supporting the role of one or more moderating factors? (c) are the factors shown to mediate this relationship in adolescence the same as those found to mediate the relationship in adulthood? (d) do mediators and/or moderators function differently for different patterns of attachment?

Method

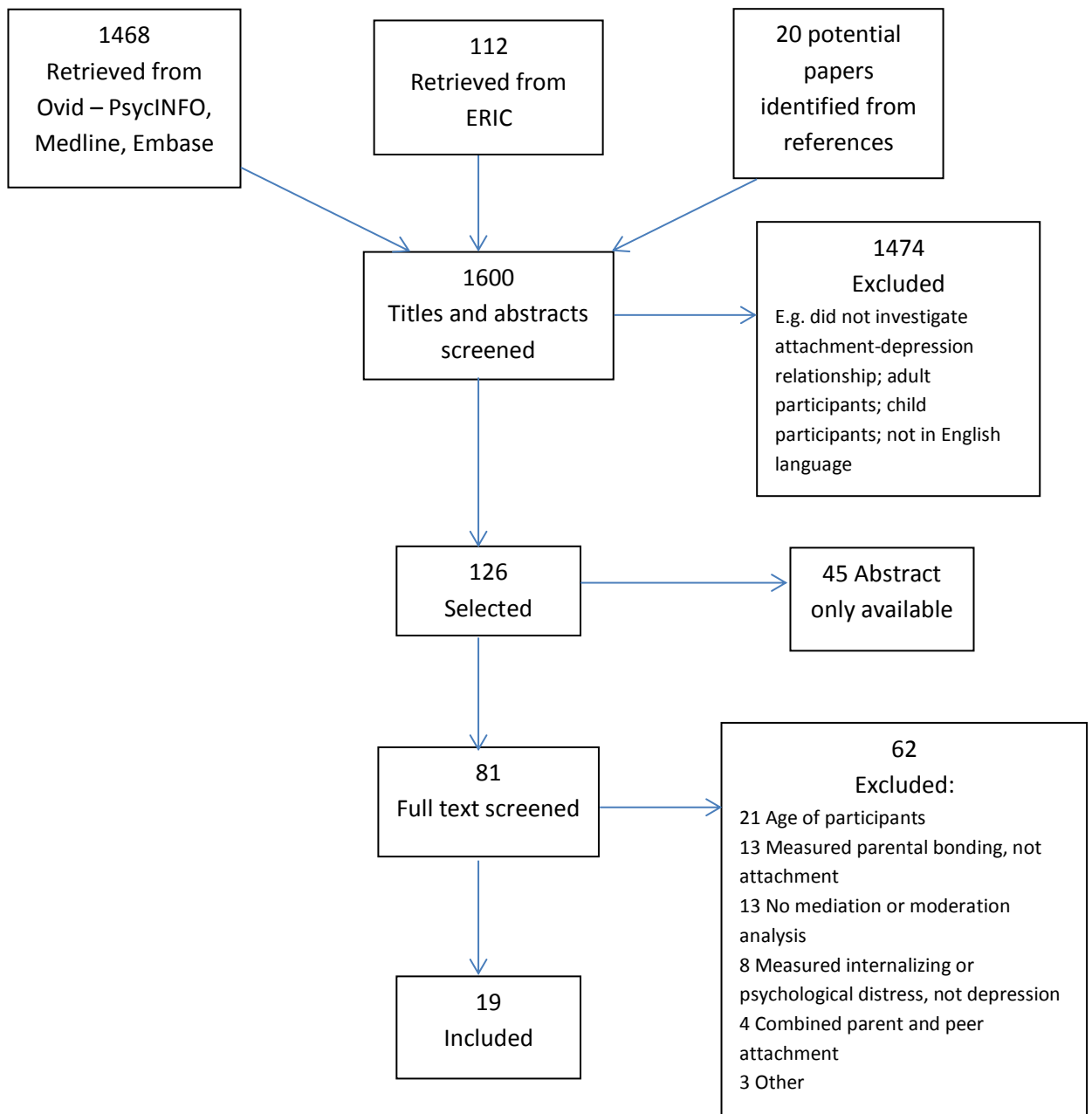
Search strategy

The databases PsycINFO (1806–December 2013), Medline (1946–December 2013), Embase (1980–December 2013) and ERIC (1966–December 2013) were searched for articles investigating mediation or moderation of the relationship between attachment and depression in adolescents. The following search terms were used: *attachment* or *object relation**, combined with *depress** or *dysthymi** and *adolescenc**, *young person*, *young people*, *teenage**, *juvenile* or *youth**. The references of identified papers were also screened for any additional relevant studies

Inclusion and exclusion criteria

Studies were included if they met the following inclusion criteria: (a) all participants were aged 12-18; longitudinal studies in which attachment was measured at an earlier age were included, provided the measures of depression occurred between ages 12 and 18; (b) measured attachment to parents, either attachment pattern or quality of attachment; (c) used a standardised self-report measure of depression or a diagnostic tool for assessing depression;

Figure 2. Flow diagram of selection process.



(d) investigated whether the relationship between attachment to parents and depression was mediated or moderated by a third variable using a mediation analysis, regression or statistical

modelling analysis; (e) published in English in a peer-reviewed journal. Studies were excluded if they (a) used a measure of psychological distress or internalizing symptoms which did not provide a separate depression score; (b) used an attachment measure which assessed the adolescents' attachment to peers, or assessed both attachments to peers and to parents without separating out the differing contributions of each in the analysis.

Study selection

The titles and abstracts of the 1600 articles retrieved by the search were reviewed and 126 papers were identified as potentially relevant. The full-text articles of these studies were screened against the inclusion and exclusion criteria and 19 studies were included (Figure 2).

Data extraction

Data collected from the studies included the country in which the study was conducted, study design, sample, attachment measure used, depression measure used, mediator and/or moderator investigated and results (Table 2).

Quality assessment

All studies were assessed according to eight quality criteria. The quality criteria were developed using the guidelines of the Centre for Reviews and Dissemination (2009) and were drawn from systematic reviews investigating mediation analyses in other areas of research (Cerin, Barnett & Baranowski, 2009; Lubans, Foster & Biddle, 2008; Van Stralen et al., 2011) and adapted for the purposes of the present review. Each study received a rating of well-covered (2), adequately addressed (1) or poorly addressed or not addressed (0) for each criterion. Details of the quality criteria and rating scale can be found in Appendix B.

Table 2. Data extracted from included studies.

Study Country	Design	Sample	Attachment Measure	Depression Measure	Mediator/ Moderator	Results
Brenning et al (2013) <i>Belgium</i>	Longitudinal – cohort sequential design	289 adolescents (98 male, 191 female) aged 12-14 at Wave 1, 13-15 at Wave 2 and 14-15 at Wave 3.	ECR-R (in relation to mother)	CDI	<i>Med:</i> Depressogenic personality (sociotropy and autonomy) <i>Mod:</i> Gender	Changes in depressogenic personality did not mediate between attachment and changes in depression over time. The relationships between changes in anxious attachment and avoidant attachment and changes in depression were not moderated by gender ($p>.05$).
Kullik and Petermann (2013) <i>Germany</i>	Cross- sectional	248 adolescents (121 male, 127 female) aged 12-17 ($M=14.41$)	IPPA (short version)	CES-D (German version)	<i>Med:</i> Emotion regulation (ER)	<i>Females:</i> Full mediation via internal- dysfunctional ER (95% CI: 4.71-13.91) <i>Males:</i> Partial mediation via internal- dysfunctional ER (95% CI: 3.04-12.71) and external-dysfunctional ER (95% CI: 0.85-6.44)
Brenning et al (2012) Study 1 <i>Belgium</i>	Cross- sectional	339 adolescents (125 male, 214 female) aged 12-14	ECR-R (in relation to mother)	CDI	<i>Med:</i> Emotion regulation (ER) <i>Mod:</i> Gender	ER did not mediate the relationship as paths from the ER variables to depression were not significant $\beta=.16$, $p>.05$ and $\beta=.13$, $p>.05$ once direct pathways from attachment to depression were included in the model. There was no significant difference between models for males and females ($\Delta SBS-\chi^2(6)=4.4$, $p>.05$).
Murray et al (2011) <i>UK</i>	Longitudinal	93 adolescents (45 male, 48 female) aged 16. 53 the offspring of mothers identified postnatally as depressed and 40 controls	Strange Situation (carried out at 18 months)	KSADS	<i>Med:</i> Ego resilience	The relationship between insecure attachment at 18 months and depression at 16 years was mediated by low ego resilience measured at age 8.

Study Country	Design	Sample	Attachment Measure	Depression Measure	Mediator/ Moderator	Results
Puissant et al (2011) <i>Belgium</i>	Cross- sectional	225 adolescents (63 male, 162 female) aged 13-18	IPPA	CES-D	<i>Med:</i> Social rank (social comparison and submissive behaviour) <i>Mod:</i> Age	Neither social comparison nor submissive behaviour mediated the relationship between attachment to father and depression ($\beta=-6.88$, $p<.001$ after mediators entered into regression model) or attachment to mother and depression ($\beta=3.29$, $p<.05$ after mediators entered). However, impact of quality of attachment on depression decreased as age increased ($\beta=.188$, $p<.05$).
Roelofs et al (2011) <i>Netherlands</i>	Cross- sectional	222 adolescents (84 males, 138 females) aged 12-18 (M=14.7)	IPPA	BDI-II	<i>Med:</i> Maladaptive schemas	The mistrust (95% CI=.01-.15) and social isolation (95% CI=.01-.12) schemas significantly mediated the relationship between trust in parents and depression.
Ruijten et al (2011) <i>Netherlands</i>	Cross- sectional	455 adolescents (201 males, 254 females) aged 12-18 (M=14.7)	IPPA	BDI-II	<i>Med:</i> Rumination	Rumination partially mediated the relationship between trust in parents and depression ($\alpha\beta=-.09$, $p<.05$)
Woodhouse et al (2010) <i>USA</i>	Cross- sectional	189 adolescents (71 male, 118 female) aged 16-17	AAI	CDI	<i>Mod:</i> Parental psychological symptoms (depression and anxiety)	Maternal or paternal depression or anxiety alone did not moderate the relationship between attachment and depression. However, 3-way interactions of attachment x maternal anxiety x paternal anxiety ($\beta=-.42$, $p<.05$), attachment x maternal depression x paternal anxiety ($\beta=-.31$, $p<.05$) and attachment x maternal anxiety x paternal depression ($\beta=.56$, $p<.01$) were significant.

Study Country	Design	Sample	Attachment Measure	Depression Measure	Mediator/ Moderator	Results
Shochet et al (2008) <i>Australia</i>	Cross-sectional	153 adolescents (76 male, 77 female) aged 12-18 (M=15.2)	PAQ	CDI	<i>Med:</i> School connectedness <i>Mod:</i> School connectedness	School connectedness partially mediated the relationship between attachment and depression ($z=-4.71$, $p<.001$). However, school connectedness did not moderate the relationship between attachment and depression ($\beta=.87$, $p>.05$).
Allen et al (2007) <i>USA</i>	Longitudinal	167 adolescents (80 male, 87 female), Mean ages: 13.36 at Wave 1, 14.29 at Wave 2, 15.22 at Wave 3.	AAI Q-set	CDI	<i>Mod:</i> Gender	Attachment security had a more significant impact on depressive symptoms for females than males ($t=-3.87$, $p<.001$).
Milne and Greenway (2007) <i>Australia</i>	Cross-sectional	82 adolescents (30 male, 52 female) aged 14-16 (M=15.25)	IPPA	SDS	<i>Meds:</i> Peer attachment, separation-individuation, anaclitic depression, introjective depression	The relationship between attachment and depression in females was partially mediated by separation-individuation ($z=3.126$, $p<.01$) and introjective depression ($z=-2.013$, $p<.05$). There was no mediation effect for any mediator variables for males.
Liu (2006) <i>Taiwan</i>	Cross-sectional	1144 adolescents (622 male, 522 female) aged 13-14 (M=14)	CPS (separate versions for mother and father)	CDI	<i>Meds:</i> Peer support and social expectations	<i>Females:</i> Social expectations partially mediated the relationship between maternal/paternal attachment and depression and peer support partially mediated the relationship between maternal attachment and depression. <i>Males:</i> Social expectations partially mediated the relationship between maternal and paternal attachment and depression and peer support fully mediated this relationship.

Study Country	Design	Sample	Attachment Measure	Depression Measure	Mediator/ Moderator	Results
Cawthorpe et al (2004) <i>Canada</i>	Cross-sectional (Case control study)	73 female adolescent inpatients aged 13-18 (M=15.5) – 51 with depression and 22 with other diagnoses	AAQ	DISC	<i>Mod:</i> Family type	Family type moderated the relationship between unavailability and depression ($z=2.06$, $p<.05$) with unavailability having less impact on depression for those in step-parent families.
Sund and Wichstrøm (2002) <i>Norway</i>	Longitudinal	2465 (2360 at T2) adolescents (1212 males, 1253 females) aged 12-14 at T1 (M=13.7) aged 13-17 at T2 (M=14.9)	IPPA	MFQ	<i>Mod:</i> Stressful life events	Stressful life events did interact significantly with security of attachment in predicting depression but this interaction was not a significant contributor to the final model once the main effects had been entered.
Milne and Lancaster (2001) <i>Australia</i>	Cross-sectional	59 female adolescents aged 14-16 (M=15.7)	IPPA	SDS	<i>Meds:</i> Self-critical concerns, peer attachment and separation-individuation	The impact of attachment to parents on depression was partially mediated by both peer attachment and self-critical concerns. There was also an indirect path via separation-individuation to interpersonal concerns which predicted depression.
DiFilippo and Overholser (2000) <i>USA</i>	Cross-sectional	59 adolescent inpatients (25 male, 34 female) aged 13-17 (M=15.6)	IPPA	CDI	<i>Mod:</i> Gender	Gender did not moderate either the relationship between attachment to mother and depression ($\beta=-.99$, $p>.05$) or attachment to father and depression ($\beta=.22$, $p>.05$)
Noom et al (1999) <i>Netherlands</i>	Cross-sectional	400 adolescents (199 males, 201 females) aged 12-18 (M=15.0)	IPPA	The depressive mood scale	<i>Mod:</i> Autonomy	Autonomy did not moderate the relationship between attachment and depression, nor were there significant three-way interactions between attachment, autonomy and age or gender.

Study	Design	Sample	Attachment Measure	Depression Measure	Mediator/ Moderator	Results
Kenny et al (1993) USA	Cross-sectional	207 adolescents (115 male, 92 female) aged 13-14	PAQ	CDI	<i>Med:</i> View of self <i>Mod:</i> Gender	View of self fully mediated the relationship between attachment and depression. Gender was found to moderate the relationship, with stronger relationships between variables for males.
Papini et al (1991) USA	Cross-sectional	231 adolescents (98 male, 133 female) aged 12-13 (M=12.8)	IPPA	CDI	<i>Mod:</i> Pubertal maturity	Pubertal maturity did not moderate either the relationship between attachment to mother and depression ($t=-1.71$, $p>.05$) or attachment to father and depression ($t=1.57$, $p>.05$).

Abbreviations: IPPA = Inventory of Parent and Peer Attachment, ECR-R = Experiences in Close Relationships scale – Revised for children and adolescents, AAI = Adult Attachment Interview, PAQ = Parental Attachment Questionnaire, CPS = Child's Perception of Security Scale, AAQ = Adolescent Attachment Questionnaire, CES-D = Center for Epidemiological Studies Depression Scale, CDI = Children's Depression Inventory, BDI-II = Beck Depression Inventory-II, DISC = Diagnostic Interview Schedule for Children, MFQ = Mood and Feelings Questionnaire, SDS = Self-rating Depression Scale, K-SADS = Kiddie Schedule for Affective Disorders and Schizophrenia, Present and Lifetime Version, Med = Mediator, Mod = Moderator

The first of the quality criteria assessed whether there was a theoretical basis for the choice of mediator or moderator. Establishing a good theoretical basis is particularly important as the results of mediation and moderation analyses can often be interpreted in a variety of ways (Hayes, 2013), especially in cross-sectional studies where the causal process cannot be established merely from the data. Studies were also assessed on their statistical power as research which is underpowered may not be able to detect effects in the sample which exist in the population or vice-versa. This means the findings of underpowered studies cannot be generalised outside the sample tested, limiting the usefulness of the research. The power was calculated for those papers which did not report a power calculation but which provided statistics that allowed the power to be calculated.

In order for the findings of the research to be valid and reliable, the scales used to measure each of the variables must be valid and reliable. For this reason, three quality criteria assessed the psychometric properties of the attachment, depression and mediator/moderator measures. In order to draw conclusions about the effects of the mediators or moderators, it is important that other factors known to affect adolescent depression are controlled for to ensure that any effects are due to the variables of interest, rather than other factors. A further quality criterion therefore assessed whether the effects of known correlates of depression were controlled.

The seventh quality criterion assessed the test of mediation or moderation used. Many studies testing mediation effects in a wide range of research areas have employed the causal steps approach. However, this method of testing mediation relies on logical, rather than statistical, inference (Hayes, 2013). Hayes (2013) argued that the assumption made by this method of the need for a direct relationship to exist for there to be a mediated effect is erroneous. More recent inferential statistical tests of mediation have been developed, such as the bootstrapping method. However, one inferential test, the Sobel test, makes assumptions about the normality of the data which are not always met. This review therefore evaluated

the appropriateness of the statistical test used to investigate mediation. The final quality criterion assessed the ecological validity of the research due to the importance of having findings which are clinically useful.

Eight of the papers (42%) were rated on the same criteria by a second rater. Inter-rater reliability was substantial ($\kappa = .74$; Landis & Koch, 1977).

Results

Nineteen papers met the inclusion criteria. Of these, 12 investigated mediation of the attachment-depression relationship, covering a total of 18 different mediators. Twelve studies investigated moderation of the relationship (five papers investigated both mediation and moderation), with eight different moderators investigated. Sample sizes ranged from 59 to 2465 with a total of 7100 participants across all studies, 54% ($n=3835$) of which were female and 46% ($n=3265$) were male. The studies were conducted in nine different countries across four continents. The majority (16) were community samples, all but one of which were recruited via schools. Two studies used inpatient samples and one longitudinal study recruited mothers via a maternity hospital.

Assessment of attachment

The papers used a number of different methods to measure attachment. Over half (53%) used the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987), a questionnaire which measures the quality of the child's attachment to their parents and peers and results in three subscale scores, Trust, Communication and Alienation, for parents and peers separately (DiFilippo & Overholser, 2000; Kullik & Peterman, 2013; Milne & Greenway, 2007; Milne & Lancaster, 2001; Noom, 1999; Papini, Roggman & Anderson, 1991; Puissant, Gauthier & Van Oirbeek, 2011; Roelofs, Lee, Ruijten & Lobbestael, 2011; Ruijten, Roelofs & Rood, 2011; Sund & Wichstrøm, 2002). Other self-report measures used

included the Experiences in Close Relationships Scale – Revised for children and adolescents (ECR-RC; Brenning, Soenens, Braet & Bosmans, 2011), which measures attachment anxiety and attachment avoidance (Brenning, Soenens, Braet & Beyers, 2013; Brenning, Soenens, Braet & Bosmans, 2012), and the Parental Attachment Questionnaire (PAQ; Kenny, 1987), which has three subscales, Affective Quality of Attachment, Parental Fostering of Autonomy and Parental Role in Providing Support (Kenny, Moilanen, Lomax & Brabeck, 1993; Shochet, Homel, Cockshaw & Montgomery, 2008).

Two studies used self-report measures assessing the adolescents' perceptions of their attachment relationship. Cawthorpe, West and Wilkes (2004) used the Adolescent Attachment Questionnaire (West, Rose, Spreng, Sheldon-Keller & Adam, 1998) and utilised the Angry Distress and Unavailability subscales from the measure. Liu (2006) used the Child's Perception of Security scale (Kerns, Klepac & Cole, 1996), which measures the adolescent's perception of the responsiveness and availability of the attachment figure, their tendency to rely on them in times of distress and their interest and ease in communicating with the attachment figure (Liu, 2006).

Only one study (Murray et al., 2011) used Ainsworth's Strange Situation paradigm (Ainsworth et al., 1978) for assessing infants' attachment patterns. Whilst this paradigm allows infants to be classified into one of four attachment patterns, secure, ambivalent, avoidant or disorganised (Brumariu and Kerns, 2010), Murray et al. (2011) used only two categories of classification, secure and insecure.

Two studies (Allen, Porter, McFarland, McElhaney & Marsh, 2007; Woodhouse, Ramos-Marcuse, Ehrlich, Warner & Cassidy, 2010) utilised the Adult Attachment Interview (AAI; George, Kaplan & Main, 1984, 1996). The AAI is a semi-structured interview which assesses the person's 'state of mind' with regards to their attachment by rating the coherence of the interview transcript (Woodhouse et al., 2010). Interviewees are classified into one of

four attachment patterns, autonomous, dismissing, preoccupied or unresolved. These classifications mirror the infant classifications of secure, avoidant, anxious/ambivalent and disorganised respectively (Brumariu and Kerns, 2010). In line with Brumariu and Kerns (2010), this review will use the terms secure, avoidant, ambivalent and disorganised to refer to the attachment patterns.

Allen et al. (2007) used the AAI Q-set (Kobak, Cole, Ferenz-Gillies, Fleming & Gamble, 1993), which provides a continuous measure of the quality of the individual's attachment paralleling the attachment classifications of the AAI. Allen et al. (2007, p. 1227) compared ratings of each participant's interview to a prototype for "secure versus anxious interview strategies" to yield a continuous score for the security/insecurity of attachment displayed in the interview transcript.

Assessment of depression

Two studies used diagnostic tools to assess participants' symptoms of depression, Murray et al. (2011) used the Kiddie Schedule for Affective Disorders and Schizophrenia, Present and Lifetime Version (Kaufman, Birmaher & Brent, 1997) and Cawthorpe et al. (2004) used a computer-based revised version of the Diagnostic Interview Schedule for Children (Piancentini et al., 1993).

All other papers used self-report measures of depression, the most common being the Children's Depression Inventory (CDI; Kovacs, 1992), which was used in nine studies (Allen et al., 2007; Brenning et al., 2012; Brenning et al., 2013; DiFilippo and Overholser, 2000; Kenny et al., 1993; Liu, 2006; Papini et al., 1991; Shochet et al., 2008; Woodhouse et al., 2010). Other self-report measures used included the Beck Depression Inventory – II (BDI-II; Beck, Steer & Brown, 1996), used in two studies (Roelofs et al., 2011; Ruijten et al., 2011), the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977) used by both Kullik and Petermann (2013) and Puissant et al. (2011), and the Self-Rating

Depression Scale (SDS; Zung, 1965) used in the studies by Milne and colleagues (Milne & Greenway, 2007; Milne & Lancaster, 2001). In addition, Sund and Wichstrøm (2002) used the Mood and Feelings Questionnaire (MFQ; Angold, 1989) and Noom et al. (1999) used the Depressive Mood Scale (Kandel & Davies, 1982).

Outcome of Quality Assessment

As can be seen in Figure 3, the majority of papers gave a good rationale for the choice of mediator(s) or moderator(s). The attachment measure used in the majority of studies (89%) and the depression measure used in 79% of studies had good or adequate internal reliability. However, reliability of the measures of the mediators and moderators was less consistent.

Birmaher et al. (1996) outlines a number of known correlates of adolescent depression, including age, gender, socio-economic status, parental psychopathology, poor support, stressful life events and poor maternal functioning. Many studies (63%) controlled for at least one correlate, with six studies controlling for two or more. In addition, many of the mediators and moderators tested were also known correlates. However, almost all of the correlates controlled for were demographic variables and there was less focus on other issues such as stressful life events or social support.

Most studies employed appropriate statistical tests of mediation or moderation. However, a few mediation studies relied on non-inferential tests (11%), such as the causal steps method, or used Sobel's test (11%) without first establishing the normality of the data. The largest methodological issue for this body of research was that many of the studies were underpowered for some or all of the analyses, or did not present sufficient data to allow the power to be calculated. A further gap in the literature was that of studies with high ecological validity. Only three studies were conducted with a clinical population of adolescents with depression (Cawthorpe et al., 2004; DiFilippo & Overholser, 2000), or with at-risk adolescents (Murray et al., 2011; Table 3).

Table 3. Ratings of quality criteria

Study	Theoretical basis	Sufficient power	Attachment measure	Depression measure	Measure of mediator/moderator	Correlates controlled	Inferential statistical test	Ecological validity	Overall Rating
Brenning et al (2013)	2	0	2	2	1	2	2	0	11
Kullik and Petermann (2013)	2	0	2	2	0	2	2	0	10
Brenning et al (2012)	2	0	2	2	0	2	2	0	10
Murray et al (2011)	2	0	2	0	0	2	1	1	8
Puissant et al (2011)	2	0	1	2	1	1	1	0	8
Roelofs et al (2011)	2	0	1	2	1	0	2	0	8
Ruijten et al (2011)	2	1	0	2	2	0	2	0	9
Woodhouse et al (2010)	2	2	1	2	2	0	2	0	11
Shochet et al (2008)	1	1	2	2	2	0	1	0	9
Allen et al (2007)	0	0	2	2	2	1	2	0	9
Milne and Greenway (2007)	2	0	2	0	1	0	1	0	6
Liu (2006)	2	1	1	2	2	1	2	0	11
Cawthorpe et al (2004)	1	0	0	0	0	1	2	2	6
Sund and Wichstrøm (2002)	2	0	2	0	0	2	2	0	8
Milne and Lancaster (2001)	2	0	2	0	0	1	0	0	5
DiFilippo and Overholser (2000)	2	0	2	2	2	1	2	2	13
Noom et al (1999)	2	0	1	1	0	2	2	0	8
Kenny et al (1993)	2	1	2	2	1	0	2	0	10
Papini et al (1991)	2	0	2	2	0	0	2	0	8

Key: 2 = Well-covered
1 = Adequately addressed
0 = Poorly addressed/Not addressed

The small proportion of studies of an overall high quality and the fact that no paper covered all criteria to at least an adequate level (Table 3) suggests that many of the findings of the research included in this review should be interpreted with caution. In particular, the fact that many of the mediation or moderation analyses were, or may have been, underpowered means that there was a risk of type two errors for many of the papers and that caution must be taken when generalising the findings of this review to other adolescents. This is particularly the case when generalising to clinically depressed adolescents, given the paucity of studies conducted in clinical populations. The findings of this review should therefore be viewed as indicating *potential* mechanisms by which the attachment-depression relationship functions in adolescence and highlighting areas for further research.

Mediation

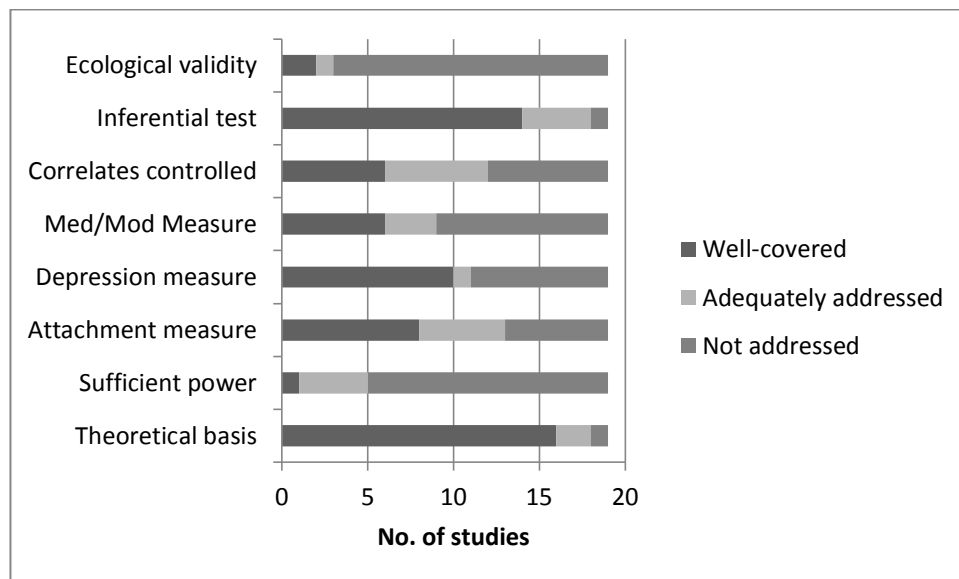
Cognitive factors

Three papers investigated mediation by cognitive factors. Roelofs et al. (2011) found the schema domain ‘disconnection and rejection’, from Young’s schema theory (Young, Klosko & Weishaar, 2003) mediated the relationship between trust in parents and depression in pupils aged 12-18. On further exploration, they found the schemas mistrust and social isolation from within the domain were responsible for the mediation, with lower scores on trust in parents leading to higher levels of mistrust and social isolation, which led to a higher depression score.

Kenny et al. (1993) and Milne and Lancaster (2001) investigated whether adolescents’ perceptions of themselves mediated the attachment-depression relationship. Kenny et al. (1993) found adolescents’ view of self, based on self-report ratings of competency, conduct, social acceptance and global self-worth, fully mediated the relationship between attachment and depression. Milne and Lancaster (2001) investigated a model in which self-critical concerns were found to mediate between parental attachment and depression in females aged

14-16. Both studies found more secure attachment to parents predicted a more positive view of self, which led to lower levels of depression.

Figure 3. Quality of the research.



Emotion regulation

Two studies (Brenning et al., 2012; Kullik & Petermann, 2013) investigated whether emotion regulation (ER) mediated the relationship between attachment and depression in adolescence. Brenning et al. (2012) found the dysfunctional ER strategies dysregulation and suppression did not

mediate the relationship between the attachment anxiety or attachment avoidance subscales of the ECR-RC and depression. However, Kullik and Petermann (2013) found internal dysfunctional ER strategies mediated the relationship between attachment to parents and depression in girls and both internal and external dysfunctional ER strategies partially mediated the relationship in boys.

Ruijten et al. (2011) investigated a specific dysfunctional ER strategy, that of rumination. They found rumination partially mediated the relationship between the trust in parents

subscale of the IPPA and depression symptoms, with less trust in parents being related to higher levels of rumination and resulting in higher scores on the BDI-II. However, because the causal steps method was used to establish mediation, no exploration of mediation of the relationship between the other two subscales and depression was carried out due to earlier analyses finding no direct relationship.

Social factors

Puissant et al. (2011) investigated two social rank variables as potential mediators, social comparison and submissive behaviour in conflicts. However, they found neither variable mediated the relationship between either attachment to mother or father and depression. Liu (2006), however, found both social expectations of peer interactions and peer support partially mediated the relationships between both maternal and paternal attachment and depression in adolescent girls. In boys, Liu (2006) found the maternal attachment-depression relationship was partially mediated by social expectations and the paternal attachment-depression relationship was mediated by both social expectations and peer support. In all cases, more secure parental attachments were related to more positive social expectations and greater peer support, which predicted lower levels of depression.

Shochet et al. (2008) found school connectedness, encompassing aspects of the adolescent's sense of belonging, respect, encouragement, acceptance and inclusion within school, partially mediated the relationship between attachment and depression. Studies by Milne and colleagues (Milne & Greenway, 2007; Milne & Lancaster, 2001) used the peer subscales from the IPPA to investigate the mediating role of peer attachment. The resulting model suggested peer attachment mediated the relationship between parental attachment and depression in adolescent girls (Milne and Lancaster, 2001). However, Milne and Greenway (2007) found peer attachment just missed statistical significance as a mediator in females and did not mediate the relationship in males.

Factors derived from psychoanalytic theory

Milne and Greenway (2007) and Milne and Lancaster (2001) investigated whether adolescents' scores on a self-report measure of separation-individuation mediated the attachment-depression relationship. In the final model presented by Milne and Lancaster (2001), separation-individuation was found to mediate the attachment-depression relationship in females via a second mediator, interpersonal concerns. The study by Milne and Greenway (2007) supported the mediation effect in females but not in males.

Milne and Greenway (2007) also investigated whether anaclitic depression or introjective depression mediated the relationship between attachment and depressive symptoms. Blatt (1974) defined anaclitic depression as a fear of abandonment and need to remain in contact with figures seen as need-gratifying due to the unavailability of the attachment figure in early childhood (Milne & Greenway, 2007). Introjective depression is seen as the experience of high levels of guilt and self-criticism with a striving for approval originating from having experienced criticism in childhood (Milne and Greenway, 2007). Despite the seeming theoretical overlap with attachment, Milne and Greenway (2007) found only introjective depression was a partial mediator of the attachment-depression relationship and only in females, with no mediating effect of anaclitic depression in either gender.

Similar to the concepts of anaclitic and introjective depression are the concepts of sociotropy and autonomy proposed by Beck (1983). Sociotropy refers to an individual's fear of rejection and reliance on others for gratification. Autonomy refers to the tendency to be self-critical and sensitive to the demands of others. Similar to the findings of Milne and Greenway (2007), Brenning et al. (2013) found changes in sociotropy were not related to changes in depressive symptoms. However, Brenning et al. (2013) also found autonomy did not mediate the relationship between changes in parental attachment and changes in depression over the course of adolescence. This is unlikely to be due to the effect only being

present in females, as with introjective depression, as a moderation analysis showed no difference across genders.

Murray et al. (2011), in a longitudinal study, investigated ego-resilience at ages 5 and 8 as mediators between attachment measured at 18 months and depression in adolescence. Low ego-resilience refers to “inflexibility in the face of changing and stressful circumstances, and difficulty recovering from challenge or failure” (Murray et al., 2011, p. 461). They found ego-resiliency at age 8, but not age 5, significantly mediated the relationship between attachment insecurity and depression, with those classified as insecurely attached more likely to have lower ego-resilience aged 8, which predicted higher levels of depression in adolescence.

Moderation

Personal characteristics

The most common moderator of the attachment-depression relationship investigated in the literature was gender, with five studies including this analysis (Allen et al., 2007; Brenning et al., 2012; Brenning et al., 2013; DiFilippo & Overholser, 2000; Kenny et al., 1993). Three of the five studies (Brenning et al., 2012; Brenning et al., 2013; DiFilippo & Overholser, 2000) found gender did not moderate the relationship between attachment and adolescent depression. However, Allen et al. (2007) found attachment had more of an impact on depression in females than in males, whereas Kenny et al. (1993) found relationships between attachment, view of self and depression were stronger in males.

Puissant et al. (2011) found age moderated the attachment-depression relationship, finding the impact that attachment to mother had on adolescents' depression decreased as age increased in their sample of 13-18 year olds. Papini et al. (1991), however, found that pubertal maturity was not a significant moderator of the relationship.

Family factors

Cawthorpe et al. (2004) found family composition moderated the relationship between perceived unavailability of the attachment figure and depression, with unavailability having a weaker relationship with depression for those from families with one step-parent compared to other family compositions.

A further study looked at the role of parental psychopathology in the relationship between attachment and depression in adolescent offspring (Woodhouse et al., 2010). There were significant three-way interactions between attachment style, maternal psychopathology and paternal psychopathology. These interactions could be interpreted as showing that insecure attachment was related to higher levels of depression in adolescents when either one or both parents had high levels of anxiety and low levels of depression.

Other factors

In addition to their mediation analysis, Shochet et al. (2008) investigated whether school connectedness moderated the attachment-depression relationship but found no significant interaction. Noom et al. (1999) investigated the role of autonomy in the attachment-depression relationship. They found autonomy did not act as a moderator, but rather attachment and autonomy had additive effects in the development of adolescent depression.

Sund and Wichstrøm (2002) carried out a longitudinal study investigating the role of stressful life events. They found that, although there was a significant interaction between attachment security and number of stressful life events, this interaction was not a significant contributor to the final model after the main effects had been entered. Their findings suggest stressful life events contribute to the development of adolescent depression but in addition to insecure attachment, rather than through moderation.

Discussion

Evidence was found for a number of mediating and moderating factors in the attachment-depression relationship during adolescence. These factors can be understood within an attachment theory framework, both in terms of the development of internal working models in infancy and early childhood and of the later transfer of attachment behaviours from parents to peers. The findings of the quality assessment, however, highlighted a number of weaknesses within the literature which must be taken into account when interpreting the findings.

Findings regarding mediating factors

Evidence has been found for several cognitive factors which mediate the attachment-depression relationship in adolescence, including view of self (Kenny et al., 1993) or self-critical concerns (Milne & Lancaster, 2001) and the schemas mistrust and social isolation (Roelofs et al., 2011). It appears that insecure attachment may lead to the development of a negative view of self, as well as of others. This fits with the attachment theory perspective which suggests that insecure attachment in childhood leads to the development of internal working models of the self as unlovable and unloved and others as untrustworthy and unreliable (Bowlby, 1973, 1980). In turn, these negative views of the self and others are considered to be predisposing factors to depression (Beck, 1967).

The evidence for ER as a mediator was not consistent. This may be due to a lack of statistical power as only the findings regarding dysregulation in Brenning et al.'s (2012) study and the findings regarding females' internal dysfunctional ER strategies in Kullik and Petermann's (2013) study had adequate power to detect mediated effects. Furthermore, the measures used to assess ER in each study differed and it is possible that measures which tap into particular dysfunctional ER strategies, such as rumination, are more likely to find evidence of a mediating role. This theory is supported by the fact that the scale measuring one specific ER

strategy (Ruijten et al., 2011) had higher internal reliability than the scales measuring a more general concept of ER (Brenning et al., 2012; Kulik & Petermann, 2013), suggesting ER encompasses a variety of different strategies. It may therefore be fruitful for further research to investigate separate aspects of ER to ascertain which play a mediating role between attachment and depression in adolescence.

A number of social factors were found to mediate the attachment-depression relationship. These findings suggest secure parental attachment leads to adolescents feeling more supported and connected in their relationships with peers which leads, in turn, to lower levels of depression. Attachment theory suggests that attachment patterns developed with parents in childhood are relatively stable and are therefore carried into later attachment relationships (Hazan & Shaver, 1994). This theory has been supported by empirical findings of significant correlations between attachment security to parents and to peers in both adolescence (Raja, McGee & Stanton, 1992) and adulthood (Hazan & Shaver, 1987).

Bowlby (1969) argued that, during adolescence, a person's attachment to their parents lessens as other figures become important. This has been supported by research on adolescent and adult attachment which has found that, as people grow older, the functions of the attachment relationship are fulfilled by romantic partners and others outside the family (Freeman & Brown, 2001; Nickerson & Nagle, 2005). This links with the findings by Milne and colleagues (Milne & Greenway, 2007; Milne & Lancaster, 2001) regarding the separation-individuation process. As with the transfer of attachment behaviours from parents to peers, the separation-individuation process is a developmental stage in which the adolescent becomes less dependent on parents.

Findings regarding moderating factors

The evidence regarding the role of gender was inconsistent and the reasons for this are unclear. Whilst it is possible that the failure to find an effect was due to a lack of power,

even those studies which found a significant effect differed in whether the relationship was stronger in males or females.

Age was found to moderate the relationship between attachment and depression across adolescence (Puissant et al., 2011). These findings suggest that, over the course of adolescence, the risk factors for depression become more varied and complex. For adolescents aged 13, the security of their attachment to parents had a large impact on their levels of depression. However, for those aged 16, this impact had lessened, suggesting other factors had become more important in determining depression. This fits with the findings of Milne and Greenway (2007) and Milne and Lancaster (2001) of the mediating roles for peer attachment and separation-individuation. These findings together suggest that, as adolescents mature, they progress through the separation-individuation process and transfer some of the functions of attachment relationships to their peers, which then begin to assume more importance in contributing to, or protecting from, the development of depression.

The findings regarding the moderating effect of family composition (Cawthorpe et al., 2004) should be treated with caution as, due to the small sample size, the family composition variable was created by dividing the family types into two groups. These groups were based on those family types for whom depression was more likely versus those for whom the adolescent was more likely to have other diagnoses. The findings were therefore confounded by the use of the dependent variable to create the moderating variable.

There was evidence for the role of parental psychopathology in moderating the attachment-depression relationship in adolescence (Woodhouse et al., 2010). These findings suggested insecure attachment led to high levels of depression only in adolescents whose parents experienced high levels of anxiety and low levels of depression. These findings are surprising given the research showing a link between maternal depression and child attachment (Martins & Gaffan, 2000), as well as the relationship between parental

depression and offspring depression (Beardslee, Versage & Gladstone, 1998). However, it may be that, rather than a moderator, parental depression is an antecedent to attachment difficulties, as in the model outlined by Murray et al. (2011). Whilst parental anxiety appears to have a moderating role, an alternative explanation is offered by Woodhouse et al. (2010), in which parental anxiety also acts as an antecedent to adolescent depression and attachment security moderates this relationship. More longitudinal studies are needed to disentangle these effects.

Comparison of mediators of the attachment-depression relationship in adolescence with those found in adulthood

Several factors found to mediate the attachment-depression relationship in adults appear to be paralleled in the adolescent literature. Cantazaro and Wei (2010) found dependence and self-criticism were significant mediators in adults. These results are mirrored in the adolescent literature by the findings on separation-individuation (Milne & Greenway, 2007; Milne & Lancaster, 2001) and self-critical concerns (Milne & Lancaster, 2001).

Wei, Shaffer, Young and Zakalik (2005) found satisfaction of the psychological needs autonomy, competence and relatedness also mediated the attachment-depression relationship in adulthood. The possibility that competence may mediate the relationship in adolescence was partially explored by Kenny et al. (1993) who found that view of self, which included aspects of competency, was a significant mediator. The potential mediation effects of relatedness were explored, in part, by Shochet et al. (2008) who found that school connectedness mediated the attachment-depression relationship and by Liu (2006) who found peer support was also a mediator in adolescence. Other factors found to mediate the relationship in adulthood, such as self-reinforcement (Wei, Mallinckrodt, Larson and Zakalik, 2005), perfectionism (Wei et al, 2006) and self-disclosure (Wei, Russell and Zakalik, 2005) have not been investigated with adolescent samples.

These findings suggest many of the factors which mediate between attachment and depression in adolescence continue to mediate this relationship in adulthood. However, it appears that, whilst many of the concepts overlap, the adult literature focusses on the outcomes of the processes occurring in adolescence. For example, the dependence investigated by Cantazaro and Wei (2010) appears to be conceptualised as a stable characteristic, in contrast to the process of separation-individuation researched by Milne and colleagues (Milne & Greenway, 2007; Milne & Lancaster, 2001). Taken together, these bodies of research begin to provide a dynamic picture of the developmental pathway from the security of attachment founded in infancy to the experience of depression in adolescence and into adulthood. This theory is supported by the findings of a moderating effect of age on the attachment-depression relationship (Puissant et al, 2011).

Differential functioning of mediators or moderators for different patterns of attachment

Due to the small number of studies employing classificatory attachment measures, there were no clear findings regarding differing roles of mediators or moderators for the different attachment patterns. Only one study finding evidence of a mediated effect (Murray et al., 2011) and one finding evidence of a moderated effect (Woodhouse et al., 2010) used observational attachment measures. These studies, however, classified participants as secure or insecure and did not distinguish between different insecure patterns.

One study which found evidence for mediation (Liu, 2006) and one which found evidence for moderation (Puissant et al., 2011) separated out the influences of maternal and paternal attachment. The findings of these studies suggest maternal and paternal attachment may function differently in their relationship to adolescent depression and that this may differ across genders. As highlighted by Brumariu and Kerns (2010), further research is needed to explore the differing contributions of maternal and paternal attachment to adolescent depression and the potentially different pathways by which these relationships function.

A proposed model of the relationship between attachment and depression

Attachment theory proposes that a person's experiences of care in childhood lead to the development of the individual's internal working models of themselves and others (Bowlby, 1973, 1980). It appears that variables found to mediate the relationship between attachment and adolescent depression can be related to the development of one or both of these internal working models (Figure 4).

The mediators view of self and self-critical concerns could be seen to develop from the internal working model of the self. In contrast, other factors found to mediate the attachment-depression relationship appear to derive from an individual's internal working model of others. For example, if a person's internal working model is that others are untrustworthy, this may lead to them holding a cognitive schema of mistrust and to isolate themselves from others. This, in turn, may lead the individual to rarely feel a sense of belonging in social groups which, for adolescents, may manifest as low school connectedness. Some adolescents who have experienced negative responses to their attachment behaviours in childhood may expect others to be hostile or rejecting of them, which is likely to lead to further social isolation. Social isolation has been found to be a predictor of depression across the lifespan (Barg et al., 2006; Boivin, Hymel & Bukowski, 1995; Bruce & Hoff, 1994; Hagerty, Williams, Coyne & Early, 1996; Vanhalst et al., 2013).

Social isolation may be a particularly relevant mediator for those adolescents who have developed an avoidant attachment pattern. For those who have developed an ambivalent attachment pattern, difficulties in the development of an autonomous self through the process of separation-individuation may be a more pertinent mediator. A preoccupation with interpersonal relationships may lead ambivalently attached individuals to have difficulty feeling satisfied with relationships. Banse (2004) found that an ambivalent (or preoccupied) attachment style was a significant predictor of relationship dissatisfaction in adults,

particularly for males. Relationship dissatisfaction with both spouses and other relatives has been found to be a predictor of major depression in adulthood (Whisman, Sheldon & Goering, 2000) and it is possible that similar processes occur within attachment relationships in adolescence.

Part of the process of separation-individuation involves transferring some of the functions of attachment relationships to peers. Milne and Lancaster (2001) found that more secure peer attachment protects adolescents from experiencing depression. Research suggests there is a direct link between parent and peer attachment, with attachment patterns being similar across relationships (Hazan & Shaver, 1987; Raja et al., 1992).

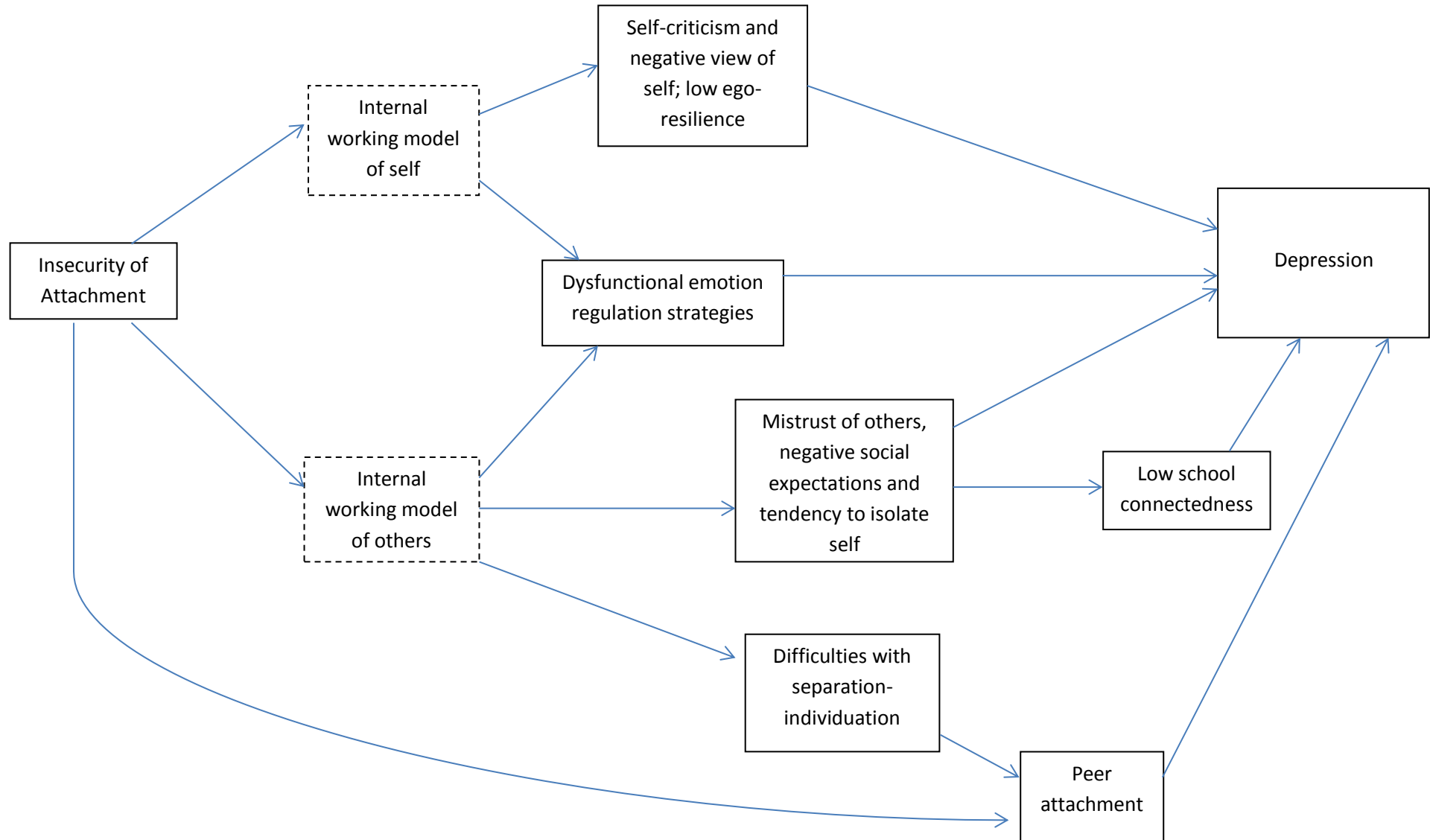
Emotion regulation skills have their foundation in the attachment relationship in infancy (Hughes, 2011). Mikulincer, Shaver & Pereg (2003) suggest that positive experiences of care in childhood help to develop positive beliefs about both the individual's own capacity to manage stress and others' availability for offering support. This suggests that functional ER strategies develop from positive

internal working models of both the self and others. It is possible that internal functional ER strategies, such as reappraisal, develop from an individual's internal working model of self and belief in their ability to manage distress and the situations from which it arises. On the other hand, external functional ER strategies, such as seeking support, derive from an individual's internal working model of others.

Implications for Clinical Practice

The proposed model can be used in clinical practice to aid in formulating the difficulties of adolescents presenting with depression. It is likely that different mediators are more pertinent for different individuals, depending on their experiences and attachment patterns. Exploring the factors highlighted by the model may help clinicians and patients to gain an

Figure 4. Proposed model of mediation of the relationship between attachment and adolescent depression.



understanding of the development and maintenance of the young person's depression and thus highlight areas for intervention. For example, it may be beneficial for many depressed adolescents to receive support to develop more adaptive emotion regulation strategies, or to experience a (therapeutic) relationship in which they can begin to trust another person.

The model also suggests, however, that the most effective way to intervene may be to work directly with the adolescent's attachment relationship and that changes in the security of the person's attachment to their parent figure will, in turn, impact on the mediating factors and ultimately reduce the young person's depression. Approaches such as Attachment-Based Family Therapy (Diamond et al., 2012) and Dyadic Developmental Psychotherapy (Hughes, 2004) work directly with the young person's attachment relationship and have been found to be effective in reducing depression in adolescents (Becker-Weidman, 2006; Diamond et al., 2012; Israel & Diamond, 2013; Shpigel et al., 2012). Changes in the young person's behaviour and cognitions in the areas of the mediation factors may signal changes in the young person's attachment pattern and internal working models. For example, an increase in the young person's ability to trust others and a reduction in their tendency to self-isolate may signal changes in their internal working model of others and a move away from an avoidant attachment style.

The mediating factors outlined in the proposed model therefore provide both potential areas for effective intervention and a means of evaluating the degree of change in the young person's attachment security. Further research is needed to investigate whether interventions which aim to affect change in adolescents' attachment security have a longer-lasting effect on reducing depression than those which target only those factors shown here to be mediators of the attachment-depression relationship.

Strengths and limitations of the literature and future directions

The research reviewed has helped to further the understanding of how and in what circumstances insecure attachment leads to higher levels of depression in adolescence by outlining a number of mediators and moderators of the relationship between parental attachment and adolescent depression. However, the literature was found to have poor ecological validity, with few studies carried out in clinical or at risk populations. It is possible that factors mediating the relationship between attachment and depressive symptoms in clinically depressed adolescents are different to those mediating the relationship for adolescents who do not meet criteria for a diagnosis of depression. Further research is needed to investigate the pathways from attachment to depression in clinical adolescent populations.

The majority of studies used appropriate statistical tests for mediation and moderation. However, there was some use of statistical analyses which did not employ inferential tests of mediation or which made assumptions of normality that had not been established. Furthermore, a large proportion of the studies was underpowered or did not present the analysis in a way which allowed for the power to be calculated. Future research should focus on using inferential tests appropriate to non-normal data, such as bootstrapping, and to ensure sample sizes are large enough to provide adequate power for the analysis. In addition, for those tests which did have adequate power and appropriate statistical tests, cause and effect could not be fully established as few studies used a longitudinal method. More longitudinal research was also called for by Brumariu and Kerns (2010) who suggested this was necessary to disentangle the potential bidirectional relationship between attachment and depression.

The literature examined in this systematic review was synthesised to develop a hypothesised model, based on attachment theory, of the potential pathways from attachment insecurity to

depression. This model proposes the possibility of varying pathways for different patterns of insecure attachment. However, the existing research has investigated insecure attachment in general and has not delineated the pathways from each of the attachment patterns. Further research is therefore needed to investigate whether the proposed pathways are supported empirically.

Conclusions

A number of mediators and moderators of the attachment-depression relationship in adolescence have been identified in the literature reviewed. The majority of these factors have their basis in attachment and cognitive theories and appear to be linked to the internal working models of self or others, highlighting potential areas for effective intervention in adolescent depression. However, many of the findings need to be treated with caution due to the use of underpowered and non-inferential tests. Future research should address these issues in order to reliably establish those factors which are key to the development of adolescent depression. Furthermore, this research should be carried out within clinically depressed adolescent populations in order to allow the findings to be translated into effective intervention strategies for treating depressed adolescents.

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Aims and Hypotheses

The findings of the systematic review suggested that a young person's attachment history and resulting attachment pattern influence their levels of depression in adolescence via their internal working models of themselves and others. Theories of depression have highlighted that a sense of helplessness or hopelessness about the future is a core component of depression (Beck, 1967; Seligman, 1975) and Bowlby (1980) argued that this stemmed from a person's negative internal working model of themselves and beliefs that they are ineffective and helpless. Young people who have had negative experiences of attachment relationships in early childhood are therefore likely to hold negative beliefs about their ability to affect positive outcomes in the future.

Looked after and accommodated young people have often experienced the types of neglectful or abusive parenting which Bowlby (1973) proposed were likely to lead to negative internal working models. It is therefore expected that looked after young people would experience higher levels of depression than their age-matched peers and would have a more pessimistic view of their future and their ability to influence their future. Research by the Department for Education in England and Wales (2010) found that looked after children had the same goals as other children but were more pessimistic about achieving these goals and felt that this was due to bad luck or fate.

These findings suggest that looked after young people may not only believe that they are ineffective in influencing their future outcomes but may also believe that control over their futures comes from external forces. This combination of beliefs is consistent with an external locus of control, a construct outlined by Rotter (1966; 1975) as the tendency to believe that outcomes are due to external forces such as luck or fate, rather than to oneself or one's own actions.

This research therefore aims to investigate whether young people who are looked after and accommodated are more pessimistic about their future than their age-matched peers and to investigate the role that locus of control plays in young people's future thinking. In addition, this study aims to investigate whether looked after young people have higher levels of depression than non-looked after young people. The study will therefore test the following hypotheses:

- a) Looked after young people will identify similar goals and similar numbers of goals as young people who have been cared for by their birth parent(s).
- b) Looked after young people will, however, report significantly lower levels of likelihood over achieving their goals and significantly less control over achieving them than young people who have been cared for by their birth parent(s).
- c) Locus of control will mediate the relationship between looked after status and future thinking.

The study will also test the following secondary hypotheses:

- d) Looked after young people will have a more external locus of control than young people cared for by their birth parent(s).
- e) Looked after young people will have higher levels of depression than young people cared for by their birth parent(s).

Future Thinking in Looked After Young People: The mediating role of locus of control

Abstract

Objective: Outcomes for young people leaving care have typically been found to be poorer than those of their age-matched peers. This study aimed to investigate how looked after young people in the period of transition to adulthood think about their future in comparison to other young people. In addition, the study aimed to explore the role of locus of control in young people's future thinking.

Method: Adolescents aged 15-18 completed a task naming their approach and avoidance goals and were asked to rate how much control they had over these and how likely they were to happen.

Results: Looked after young people had a significantly more external locus of control than their peers and this mediated the relationship between looked after status and future thinking.

Conclusions: Professionals working with looked after young people should facilitate experiences which help to increase the internality of adolescents' locus of control.

Introduction

The period from adolescence to adulthood is a time when young people negotiate the transition from dependence on family to independence, move from school to higher education or employment and develop their social roles, identities and relationships. For many young people this transition poses several challenges but, for young people who have been looked after and accommodated, both the transition and the challenges are much greater. Compared with non-looked after age-matched peers, young people transitioning out of care often do so at a younger age (Scottish Executive, 2004) and do not have the

emotional (Wade & Dixon, 2006) or financial support (Dixon & Stein, 2002) that others may receive.

Research on outcomes following transition has shown that looked after young people (LAYP) typically have poorer outcomes in a wide range of areas, including housing (Reilly, 2003; Wade & Dixon, 2006) involvement with the criminal justice system (Reilly, 2003), substance misuse (Ward et al., 2003), teenage pregnancy (Ward et al., 2003), education (McClung & Gayle, 2010; Wade & Dixon, 2006) and employment (Wade & Dixon, 2006). Studies have shown poor mental health among care leavers and high levels of emotional and behavioural difficulties (e.g. Dixon, 2008).

Research by the Department for Education in England and Wales (DfE; 2010) found that looked after children had the same goals for the future as other children but that they “did not express confidence in achieving their aspirations” and voiced “a high degree of fatalism” (DfE, 2010, p.1). Longitudinal research has shown that hope for the future and higher levels of perceived control lead to better outcomes for adolescents in a number of areas, including education (Ciarrochi, Heaven & Davies, 2007; Snyder et al, 2002; Worrell & Hale, 2001), substance misuse (Adalbjarnardottir & Rafnsson , 2001; Wilson, Syme, Boyce, Battistich & Selvin, 2005), violent behaviour (Stoddard, Zimmerman & Bauermeister, 2011), mental health and wellbeing (Martin, Richardson, Bergen, Roeger & Allison, 2005; Schmid, Phelps & Lerner, 2011; Wong & Lim, 2009) and life satisfaction (Valle, Huebner & Suldo, 2006; Wong & Lim, 2009). These findings highlight the possibility that LAYP’s beliefs about their future may influence their outcomes in later life. Despite this, there has been little research into how LAYP think about their future during this period of transition.

The Theory of Learned Helplessness

The theory of learned helplessness (Abramson, Seligman & Teasdale, 1978; Seligman, 1975) offers one explanation for the mechanism linking LAYP's past experiences and future outcomes. The theory suggests that when a person experiences behavioural non-contingency, i.e. their behaviours do not result in the desired outcome, they become 'helpless'. That is to say, they stop trying to influence the outcome. For example, Klein and Seligman (1976) found participants previously exposed to an uncontrollable noise were significantly slower to discover how to control an escapable noise and more likely to fail to escape than participants previously exposed to a noise they could control.

For many LAYP, there have been repeated experiences of behavioural non-contingency. Children usually become accommodated due to experiencing abuse or neglect, or a combination of these (Scottish Government, 2014). Abuse, whether physical, sexual or emotional, inherently takes control from the child and is often unpredictable in its occurrence. In situations of neglect, the child's attempts to get their physical and emotional needs met are ignored or responded to inconsistently. Attachment theory proposes that, if children experience inconsistent (i.e. neglectful) or hostile (i.e. abusive) responses to those behaviours which are designed to achieve fulfilment of their needs, they will develop negative internal working models of themselves and others (Bowlby, 1973). Bowlby (1980) highlighted the similarity between attachment theory and Seligman's (1975) learned helplessness theory, suggesting that experiences of abuse, neglect and loss lead individuals to hold internal working models of themselves as helpless and ineffective.

In addition, LAYP have often had a number of disempowering experiences once in the care system. A qualitative study by Leeson (2007) found helplessness and powerlessness were common themes for LAYP and participants spoke about a lack of confidence in making their own decisions, a finding also echoed in the DfE (2010) report. These beliefs appeared

to stem from a lack of involvement in previous decisions, suggesting that young people's disempowering experiences had led to beliefs that they were ineffective in steering their own futures.

Locus of Control

It appears, therefore, that many LAYP have had experiences which would predispose them to feelings of helplessness and to beliefs that the path their life takes is due to external forces rather than their own agency. This may help to explain the DfE's (2010) findings regarding the fatalism expressed by LAYP and the young people's sense that not achieving their goals would be due to bad luck or fate. This is in line with Rotter's (1966, 1975) construct of internal/external locus of control (LoC), which refers to a person's tendency to perceive an outcome as the result of his own actions (internal) or outside factors, such as luck or fate (external). Similar to the theory of learned helplessness, Rotter (1966) argued that it was the extent to which the person perceived the outcome to be contingent on his or her behaviour which influenced the reinforcement of the behaviour. McKeever, McWhirter and Huff (2006) found individuals with higher levels of learned helplessness also had a more external LoC.

Research has found that people who have experienced disempowering situations, including physical abuse (Allen & Tarnowski, 1989; Barahal, Waterman & Martin, 1981), sexual abuse (Gwandure, 2007) and neglect (Bolger & Patterson, 2001) are more likely to have an external LoC than those who have not. Wiehe (1987) also found female (but not male) foster children had a more external LoC than non-fostered children.

LAYP may, therefore, be more likely to have an external LoC which affects their belief in their ability to achieve future aspirations. This hypothesis is supported by research which has shown an association between external LoC and hopelessness (Asberg & Renk, 2014; Prociuk et al., 1976). The theory of learned helplessness suggests that, if young people

do not believe in their ability to achieve their goals, they will not take steps towards realising them. Internal LoC, on the other hand, has been found to be related to the use of more adaptive coping strategies (Gianakos, 2002; Elfström & Kreuter, 2006), better psychological health (Karayurt & Dicle, 2008; Roddenberry & Renk, 2010; Ryan & Francis, 2012) and higher academic achievement (Nordstrom & Segrist, 2009; Tella, Tella & Adeniyi, 2009). Therefore, by intervening in adolescence, when young people are planning for their future, it may be possible to influence outcomes in later life. Research in the area of health psychology has found that interventions can be effective in increasing the internality of people's LoC (Field & Kruger, 2008; Gussak, 2009; Lipchick et al., 1993).

Learned Helplessness and Depression

Learned helplessness and an external LoC have also been linked to higher levels of depression. Seligman (1975) argued that many of the events which precipitate depression are those over which the individual feels they have no control and that this experience of helplessness leads to the negative cognitions and reduced activity seen in depression. In support of this theory, Bargai et al. (2007) found learned helplessness mediated the relationship between the severity of violence experienced and levels of depression in a sample of women who had experienced domestic abuse. Research has also shown that external LoC is related to depression in adults (Asberg & Renk, 2014; Harrow et al., 2009; Reitzel & Harju, 2000) and adolescents (Donnelly, 1999, Gomez, 1998; Waschbusch, Sellers, LeBlanc & Kelley, 2003).

Studies carried out by MacLeod and colleagues have shown that depression influences future thinking in both adults (MacLeod & Salaminiou, 2001; MacLeod, Tate, Kentish & Jacobsen, 1997; Moore, MacLeod, Barnes & Langdon, 2006) and adolescents (Dickson & MacLeod, 2006; Miles, MacLeod & Pote, 2004). For example, Dickson and MacLeod (2006) asked adolescents aged 16-18 to write down their approach goals (i.e.

things they would like to happen) and avoidance goals (i.e. things they would like to avoid happening) for the future and to rate the likelihood of achieving them and their perceived control over goal achievement. They found that depressed adolescents generated both fewer approach goals and more avoidance goals than non-depressed participants. Additionally, depressed adolescents believed approach goals were less likely to happen and avoidance goals more likely and rated themselves as having significantly lower levels of personal control over goals than the control group.

Depression in adolescence has been shown to be significantly more prevalent in LAYP than in control samples (Dimigen et al., 1999; Ford, Vostanis, Meltzer & Goodman, 2007; McCann, James, Wilson & Dunn, 1996). Zimmerman (1988) suggested this could be explained by the learned helplessness theory, arguing that depression stemmed from the numerous situations in which these young people had experienced powerlessness. Policy and legislative changes in Scotland, such as the emphasis on young people's involvement in the 'Getting it right for every child' policy (Scottish Government, 2012) and the pathway planning aspects of the Support and Assistance of Young People Leaving Care (Scotland) Regulations 2003 (Scottish Executive, 2004) have attempted to address this issue of powerlessness. However, recent qualitative research has continued to highlight the sense of powerlessness felt by many LAYP (Leeson, 2007; McLeod, 2007; McMurray, Connolly, Preston-Shoot & Wigley, 2011).

Aims of the Study

This study aims to use the methodology of Dickson and MacLeod (2006) to investigate future thinking in LAYP who are in the process of transitioning to adulthood. In accordance with the theory of learned helplessness and in line with the findings of the DfE's (2010) report, it is hypothesised that LAYP will identify similar goals and similar numbers of goals as other young people but will report lower levels of likelihood in achieving their

goals and less control over achieving them. It is also hypothesised that LAYP will demonstrate a more external LoC than young people cared for by their birth parents and that this will mediate the relationship between young people's looked after status and their future thinking. Due to the links between depression and future thinking and the higher levels of depression in LAYP found in previous research, this study will also examine the role of depression in young people's future thinking.

Method

Participants

The sample consisted of 53 young people (35 female, 18 male) aged 15-18 years old. An additional two young people were recruited but were excluded due to not meeting the age criterion. The majority of the sample (98%) stated their ethnicity as White Scottish/British. Twenty-four (45%) participants were, or had been, looked after and accommodated and 29 (55%) lived with their birth parent(s) and had no history of local authority care. Nine of the LAYP sample were male (38%) and 15 were female (63%). Nine of the control sample were male (31%) and 20 were female (69%).

Of the looked after sample, 12 (50%) were living in residential units, six (25%) were living with foster carers, one (4.2%) with supported carers, one (4.2%) was staying in homeless accommodation, one (4.2%) lived alone in his own tenancy and one (4.2%) lived with her fiancé. Two young people (8.3%) had recently returned to live with their birth parents after many years in care. Of the control participants, 23 (79.3%) lived with both birth parents together, two (6.9%) lived with only their birth mother, one (3.4%) lived only with her birth father, one (3.4%) lived part-time with her birth mother and part-time with her birth father and two young people (6.9%) lived with their birth mother and step-father.

LAYP were recruited through clinicians working in mental health services for children and adolescents, social workers, foster carers and residential workers. Control participants were recruited from one large secondary school in the same geographical area from which the looked after participants were recruited. A small proportion (7%) of the control sample was also recruited via mental health services. In order to control for possible effects of socio-economic status, participants recruited from the school were over-sampled for those receiving free school meals.

Measures

Goals task.

Future thinking was measured using the methodology of Dickson and MacLeod's (2006) Goals Task. This task asks participants to generate future approach goals by giving the prompt 'In the future it will be important for me to...' and future avoidance goals using the prompt 'In the future it will be important for me to avoid...'. Participants are given a 75 second time period in which to produce as many goals as possible for each condition (see Appendix D). The order of approach and avoidance aspects of the task was counter-balanced across participants to control for order effects. In a change to the original methodology, participants were asked to say, rather than write, their goals. This was to ensure difficulties with literacy did not confound the results. All responses were tape recorded and noted down by the researcher.

A verbal fluency task was administered to control for differences in participants' ability to generate items in a given time period. Semantic fluency was used as this requires participants to generate words according to a theme, as in the goals task. Participants were asked to generate items in the category 'animals'. In line with the goals task, participants were given 75 seconds to do this and responses were recorded and noted down by the researcher.

Types of goals.

Two sets of goal categories were developed from the responses provided on the approach and avoidance goals tasks. These categories were then amalgamated to form broader categories and each participant's data were recoded according to the new categories. For example, the categories 'passing exams', 'further education' and 'finishing school' were combined to create the larger category 'education' (see Appendix E). Six participants (11%) were selected at random using a random number generator and their goals were rated by a second rater. Inter-rater reliability was high for both approach goals ($\kappa = .917$) and avoidance goals ($\kappa = .904$; Landis & Koch, 1977).

Ratings of likelihood.

Similar to the methodology employed by Dickson and MacLeod (2006), participants were asked to rate how likely they believed it was that they would achieve their goals. Rather than the Likert scale used by Dickson and MacLeod (2006), participants were presented with a 10cm line and instructed to 'mark with an X how likely you believe this is on the following line between 0 (not at all likely) and 10 (completely likely) ', enabling the generation of interval data (see Appendix D). Responses were recorded in millimetres. For the avoidance condition it was emphasised that a high score signified that they would be highly likely to avoid it happening.

Ratings of control.

Participants were asked how much control they believed they personally had over achieving their goals, in line with the methodology of Dickson and MacLeod (2006). Again, participants were asked to rate this by placing a cross on a 10cm line between 0 (no control at all) and 10 (complete control).

Locus of control.

Locus of control was measured using the Children's Nowicki-Strickland Internal-External scale (CNSIE; Nowicki & Strickland, 1973). This measure consists of 40 items covering "interpersonal and motivational areas such as affiliation, achievement, and dependency" (Nowicki & Strickland, 1973, p.149). Each item is stated as a question to which the participant is required to answer 'yes' or 'no'. Examples of items include, "Do you believe that wishing can make good things happen?" and "Do you believe that you can stop yourself from catching a cold?" Higher scores on this measure indicate a more external LoC. Minor changes were made to items 14, 15 and 26 by inserting the words 'or carers' after 'parents' in each to make the items more applicable to accommodated young people (see Appendix F). Nowicki and Strickland (1973) found the CNSIE to have adequate internal reliability for young people aged 15-18, with $r = .74$ for ages 14-16 and $r = .81$ for ages 17-18. For this sample Cronbach's $\alpha = .69$.

Depression.

Depression was measured using the Beck Depression Inventory-II (BDI-II; Beck, Steer & Brown, 1996). This inventory consists of 21 items assessing symptoms indicative of depression and is suitable for use with people aged 13 and over. Items consist of four statements, each of which relate to a different level of symptom severity. Those completing the questionnaire are asked to select the statement which best describes how they feel. For example, the statements for item one are 'I do not feel sad (0); I feel sad much of the time (1); I am sad all the time (2); I am so sad or unhappy that I can't stand it (3)'. Steer, Kumar, Ranieri & Beck (1998) found the BDI-II to have good internal reliability in an adolescent sample with a Cronbach's α coefficient of .92. Good internal reliability was also found in this sample ($\alpha = .94$).

Procedure

Participants were tested in a 1:1 setting with the researcher at their school, home or in a clinic. Testing was always carried out in a quiet room away from other people or distractions. Participants completed the verbal fluency control task followed by the approach and avoidance goals tasks. Participants were asked to choose the two approach and the two avoidance goals which they felt to be most important for them and to rate their belief in the likelihood of achieving the goal and their level of personal control for each of the four goals. Participants then completed the CNSIE and the BDI-II, either verbally or in writing. Finally, participants filled out a personal details form, including information about their current and past living arrangements (see Appendix G).

Ethics

The study was granted ethical approval by the NHS West of Scotland Research Ethics Service and by the Research and Development departments of each of the health boards within which the research was conducted. Permission was also granted by each of the councils from which LAYP were recruited via social services and from the Education Resources department for the local authority of the participating school (see Appendix H).

Power Analysis

Previous research found a large effect size ($r=.57$) for the difference in LoC between physically abused and non-abused children (Barahal et al., 1981). McCabe and Barnett (2000) found a medium effect size ($r = .31$) for the correlation between African American adolescents' perceptions of control and their perceived likelihood of achieving their goals. Fritz and MacKinnon (2007) report that a sample size of 54 is needed for bias-corrected bootstrapping in studies with a large effect size for α and a medium effect size for β . The present study was therefore slightly underpowered with a sample size of 53.

Data Analysis

Kolmogorov-Smirnov tests were carried out on all variables used in the analyses, calculated separately for LAYP and controls. The assumption of normality was violated for at least one of the groups for several of the variables. Scores on two variables, number of avoidance goals and BDI score, violated the assumption of homogeneity of variance, according to Levene's test. Transformations were attempted on the data but this failed to resolve the difficulties with normality for several of the variables. Data including these variables was therefore analysed using non-parametric tests.

All analyses were carried out using IBM SPSS Statistics, version 19. The mediation analyses were conducted using the PROCESS macro for SPSS, version 2.12 (Hayes, 2013).

Results

Missing Data

There were no missing values for any of the future thinking variables. However, calculations showed 0.24% of responses on the CNSIE and 0.45% of responses on the BDI were missing. Little's Missing Completely At Random (MCAR) test found that data was MCAR ($p=.232$). Expectation maximization (Dempster, Laird & Rubin, 1977) was therefore carried out to replace missing BDI data (see Enders, 2004; Gold & Bentler, 2000). Following the recommendations of Finch (2010) for imputing missing categorical data, multiple imputation with five imputations was carried out to replace missing CNSIE values. The missing values were then replaced using the mode of the imputation results and the total CNSIE scores for those participants with missing values were recalculated.

Descriptive Statistics

The means and standard deviations for each of the outcome variables are presented in Table 1. This data shows that likelihood and control ratings were lower for LAYP than for controls. Furthermore, LAYP participants had a more external LoC, on average, than control participants and had a mean BDI score almost twice that of controls.

Table 1. Descriptive statistics for outcome variables.

Outcome Variable	Whole Sample Mean (SD)	LAYP group Mean (SD)	Control group Mean (SD)
No. of approach goals	8.94 (2.96)	9.04 (3.01)	8.86 (2.96)
No. of avoidance goals	7.28 (3.61)	7.92 (4.30)	6.76 (2.89)
Av. likelihood rating for approach goals	77.54 (16.20)	77.17 (17.31)	77.84 (15.52)
Av. control rating for approach goals	80.70 (18.77)	79.48 (18.11)	81.71 (19.55)
Av. likelihood rating for avoidance goals	69.77 (21.48)	66.54 (22.42)	72.45 (20.68)
Av. control rating for avoidance goals	76.24 (20.22)	73.08 (22.02)	78.84 (18.60)
Av. likelihood rating	73.66 (16.00)	71.85 (17.34)	75.15 (14.95)
Av. control rating	78.47 (15.89)	76.28 (16.58)	80.28 (15.35)
Locus of Control score	14.81 (4.91)	16.46 (4.87)	13.45 (4.72)
BDI score	13.47 (11.65)	18.33 (14.22)	9.45 (6.98)

Tables 2 and 3 show the percentages of young people naming at least one goal in each goal category. This data shows considerable differences between the groups in some approach categories. For example, control participants were more likely than LAYP to name approach goals relating to education, employment, happiness and children, whereas LAYP were more likely than controls to name goals relating to housing, belongings, travelling and being able to drive. The largest discrepancies (>20%) were in the areas of education and having children. For the avoidance condition, controls were more likely to name goals relating to failing to achieve goals or life satisfaction, hurting others, health issues and losing family/friends or being away from family, whereas LAYP were more likely to name goals relating to homelessness, substance misuse, negative habits and falling in with negative

peers. The largest discrepancies (>20%) were in the categories substance misuse, homelessness, losing friends or family and hurting others.

Sample Characteristics

There was no significant difference in age between the LAYP group (Mdn =16.0) and the control group (Mdn=16.0), $U=323.00$, $p>.05$. The amount of time LAYP had been in their current placement ranged from 0.75-108.00 months, with the mean being 29.53 months and the median 19.50 months. The mean number of sets of carers (including birth parents) that LAYP had had was 5.54. The mean age at which LAYP were first accommodated was 9.63 years.

Seventeen percent of the control sample scores and 25% of the LAYP sample scores fell in the mild range on the BDI. Ten percent of the control sample scores and 33% of the LAYP sample scores fell in the moderate or severe ranges on the BDI.

Group Comparisons

There were no significant differences between the groups on any of the future thinking variables, all $p>.05$. There was also no significant difference between LAYP ($M=21.38$) and controls ($M=21.28$) on the verbal fluency test, $t(51)=-.053$, $p=.958$. LAYP had a significantly more external LoC ($M=16.46$) than controls ($M=13.45$), $t(51)=-2.28$, $p(1\text{-tailed})=.014$. LAYP also scored significantly higher (Mdn=16.00) than controls (Mdn=7.00) on the BDI, $U=199.50$, $p=.004$.

For those categories in which at least 25% of participants named one or more goals, comparisons were carried out between the groups. None of the differences shown in the descriptive statistics for the approach or avoidance goals were significant, all $p>.05$.

Table 2. Approach goal categories, category examples and percentage of young people naming one or more goals in the category

Goal Category	Examples <i>'In the future it will be important for me to...</i>	% whole sample naming ≥1 goal	% LAYP naming ≥1 goal	% controls naming ≥1 goal
Employment	<i>have a good career.'</i>	84.9	75.0	93.1
Education	<i>go to college.'</i>	67.9	54.3	79.2
Children	<i>have a family.'</i>	49.1	33.3	62.0
Housing	<i>try and get a house.'</i>	49.1	58.3	41.4
Friendships	<i>make loads of new pals.'</i>	39.7	33.4	44.8
Money	<i>make a good amount of money.'</i>	35.9	37.5	34.4
Travel	<i>travel America in a campervan.'</i>	32.1	41.7	24.0
Family	<i>be in contact with my four sisters.'</i>	32.0	29.2	34.5
Health	<i>be a lot healthier.'</i>	28.3	33.3	24.1
Experiences or Hobbies	<i>improve my football ability.'</i>	26.4	29.2	24.1
Marriage or partner	<i>get married.'</i>	26.4	33.3	20.7
Achieving goals or life satisfaction	<i>feel I have fulfilled my life as much as possible.'</i>	24.5	20.8	27.6
Leading a good life	<i>be kind to everybody.'</i>	22.7	20.8	24.1
Happiness or enjoyment	<i>have a happy life.'</i>	20.7	12.5	27.6
Belongings	<i>have a nice car.'</i>	18.9	29.1	10.3
Having own business	<i>hopefully, when I'm older, get my own bakery or diner.'</i>	13.2	12.5	13.8
Helping others	<i>help young people in care.'</i>	13.2	12.5	13.8
Driving	<i>be able to drive.'</i>	11.3	20.8	3.4
Pets	<i>have an animal – a dog.'</i>	9.4	16.7	3.4
Trying my best	<i>give my all to everything I want to do.'</i>	9.4	8.4	10.3
Good habits	<i>be organised.'</i>	5.7	4.2	6.8
Moving on	<i>move on from here.'</i>	3.8	4.2	3.4
Love	<i>hav[e] the love of my family.'</i>	3.8	4.2	3.4
Retirement	<i>[have] a good pension.'</i>	3.8	4.2	3.4
Proving people wrong	<i>be the child that proves everybody wrong – that we'ans in care are nae always the same.'</i>	1.9	4.2	3.4
Making family proud	<i>make my grandma proud.'</i>	1.9	0.0	3.4
Miscellaneous	<i>[have] a lot of help.'</i>	15.1	20.9	10.3

Table 3. Avoidance goal categories, category examples and percentage of young people naming one or more goals in the category

Goal Category	Examples <i>'In the future it will be important for me to avoid...</i>	% whole sample naming ≥1 goal	% LAYP naming ≥1 goal	% controls naming ≥1 goal
Trouble (with police)	<i>getting arrested.</i>	45.3	58.3	44.5
Money problems	<i>debt.</i>	42.3	33.3	48.2
Unemployment	<i>losing my job.</i>	41.5	33.4	48.3
Substance misuse	<i>taking drugs.</i>	41.5	54.2	31.0
Failing educationally	<i>failing exams.</i>	32.7	33.3	31.0
Failing to achieve goals/satisfaction	<i>hav[ing] a job that I don't enjoy – having to get up and not like going to my work.</i>	30.2	20.9	37.8
Homelessness	<i>being homeless.</i>	28.3	41.7	17.2
Falling in with negative peers	<i>being mixed in with the wrong crowd.</i>	20.8	29.2	13.8
Making wrong decisions/mistakes	<i>mak[ing] bad decisions.</i>	18.9	16.7	20.7
Hurting others	<i>being violent.</i>	18.9	4.2	31.0
Health issues	<i>serious illness.</i>	17.0	8.3	24.1
Losing friends/family or seeing them hurt	<i>los[ing] people that are important to me right now.</i>	17.0	4.2	27.5
Being away from family	<i>not keeping family involved in my life.</i>	17.0	8.3	24.1
Death	<i>getting killed in a car accident – or any accident.</i>	16.0	25.0	10.3
Negative habits	<i>being late for school.</i>	15.1	25.0	6.8
Conflict	<i>arguments.</i>	15.0	16.7	13.7
Being dislikeable person	<i>being a bad person.</i>	13.4	8.3	17.2
Particular people	<i>my sister.</i>	13.2	20.8	6.9
Poor mental health	<i>being down and it affecting me.</i>	11.3	4.2	17.2
Not having a family	<i>not having a family.</i>	9.4	12.5	6.9
Being alone	<i>being lonely.</i>	7.6	4.2	10.3
Bad or abusive relationships	<i>abusive relationships.</i>	7.6	8.4	6.9
Putting self in danger	<i>putting myself in danger.</i>	7.5	8.3	6.9
Having children too young	<i>having babies too young.</i>	5.7	12.5	0.0
Divorce	<i>getting a divorce.</i>	5.7	8.3	3.4
Social work involvement	<i>social work.</i>	3.8	8.3	0.0
Following slippery slope of others	<i>going down the paths I've seen quite a lot of folk that I know going down</i>	3.8	8.3	0.0
Giving up	<i>giving up on anything.</i>	3.8	0.0	6.9
Failing to achieve career choice	<i>not becoming a vet.</i>	1.9	0.0	3.4
Miscellaneous	<i>bad haircuts.</i>	28.4	33.8	24.1

Approach Goals vs. Avoidance Goals

Participants produced significantly more approach goals ($Mdn=9.00$) than avoidance goals ($Mdn=7.00$), $T=244.50$, $p<.001$. In addition, participants rated the likelihood of achieving their approach goals ($Mdn=79.00$) significantly higher than the likelihood of achieving their avoidance goals ($Mdn=74.50$), $T=399.00$, $p=.008$. There was, however, no significant difference between ratings of control on approach and avoidance goals, $T=573.00$, $p=.294$.

However, when these analyses were carried out separately for the LAYP and control groups, there remained a significant difference between the number of approach ($Mdn=8.00$) and avoidance goals ($Mdn=7.00$) produced for controls, $T=39.00$, $p=.000$ but not for LAYP ($Mdn\ approach=9.00$; $Mdn\ avoidance=6.50$), $T=70.50$, $p=.205$. In contrast, there remained a significant difference between likelihood ratings for the approach ($Mdn=77.75$) and avoidance goals ($Mdn=66.54$) for the LAYP group, $T=70.00$, $p=.021$, but not for the control group ($Mdn\ approach=80.50$; $Mdn\ avoidance=76.50$), $T=132.50$, $p=.110$. Both groups showed a non-significant difference on control ratings between the two types of goals (Control group: $T=181.50$, $p=.633$; LAYP group: $T=114.00$, $p=.313$).

Correlations between LoC, Depression and the Future Thinking Variables

There were no significant correlations between LoC and the number of approach (r_s (2-tailed) $=-.125$, $p=.372$) or avoidance goals (r_s (2-tailed) $=-.074$, $p=.597$). However, there were significant negative correlations between LoC and both the average likelihood ratings (r_s (1-tailed) $=-.495$, $p=.000$) and average control ratings (r_s (1-tailed) $=-.371$, $p=.003$). When these relationships were investigated for the two groups separately, there remained significant correlations between LoC and the average likelihood and control ratings for both groups, $ps<.05$.

Of the future thinking variables, average likelihood ratings was the only variable to correlate significantly with BDI scores, r_s (1-tailed)=-.275, $p=.023$. When these relationships were investigated for the two groups individually, however, the control group showed a significant correlation between BDI score and average likelihood ratings, r_s (1-tailed)=-.364, $p=.026$, but the LAYP group did not, r_s (1-tailed)=-.314, $p=.068$.

There was also a significant positive correlation between LoC and BDI scores, r_s (1-tailed)=.523, $p=.000$, showing those with a more external LoC were more likely to have higher depression scores. This relationship was significant for both the LAYP group, r_s (1-tailed)=.496, $p=.007$ and the control group, r_s (1-tailed)=.566, $p=.001$. (See Appendix I for full correlation matrices.)

Mediation Analysis

Four bias-corrected bootstrapping analyses were carried out with the four future thinking variables (number of approach goals, number of avoidance goals, average likelihood ratings, average control ratings) as the dependent variables, looked after status as the independent variable and LoC as the mediator. All analyses used 10 000 bootstrap samples and 95% confidence intervals (CI). Table 4 shows the results of the analyses. Variance inflation factors ranged from 1.19-1.67 suggesting multicollinearity was not an issue (Field, 2005).

The model produced for the number of approach goals was not significant, $F(2,50)=1.09$, $p=.343$, $R^2=.04$. There was no significant direct effect of looked after status on number of approach goals produced, $t(50)=.655$, $p=.516$ (95% CI: -1.158 – 2.277), nor a significant indirect effect via the mediator, 95% CI: -1.279 - .026. Similarly, the model produced for the number of avoidance goals was not significant, $F(2,50)=.899$, $p=.413$, $R^2=.03$. There was no significant direct effect of looked after status on number of avoidance

goals produced, $t(50)=1.310$, $p=.196$ (95% CI: $-.731 - 3.475$), nor a significant indirect effect via LoC, 95% CI: $-1.120 - 0.428$.

The model produced for average likelihood ratings, however, was significant, $F(2,50)=8.427$, $p=.001$, $R^2=.25$. In line with the findings of no significant difference between the groups on average likelihood ratings, the direct effect of looked after status on likelihood ratings was not significant, $t(50)=.416$, $p=.680$ (95% CI: $-6.512 - 9.909$). However, the indirect effect via LoC was significant, 95% CI: $-11.768 - -0.789$.

The model produced for average control ratings was also significant, $F(2,50)=7.211$, $p=.002$, $R^2=.22$. Similar to the findings for likelihood ratings, the direct effect of looked after status on control ratings was not significant, $t(50)=.147$, $p=.884$ (95% CI: $-7.702 - 8.914$) but the indirect effect via the mediator was significant, 95% CI: $-11.755 - -0.677$.

Table 4. Summary of mediation analysis.

Independent Variable (IV)	Mediator (M)	Dependent Variable (DV)	Effect of IV on M (α)	Effect of M on DV (β)	Direct effect (c')	Indirect effect ($\alpha*\beta$)
Looked after status	LoC	No. of approach goals	3.01	-0.13	0.56	-0.39
Looked after status	LoC	No. of avoidance goals	3.01	-0.07	1.37	-0.21
Looked after status	LoC	Av. likelihood ratings	3.01	-1.66	1.70	-4.99
Looked after status	LoC	Av. control ratings	3.01	-1.53	0.61	-4.60

Mediation analyses were also run for each of the four dependent variables with looked after status as the independent variable and BDI score as the mediator. However, only the model for average likelihood ratings was significant, $F(2,50)=4.157$, $p=.021$, $R^2=.14$. Again, the direct effect was not significant, $c'=1.508$, $t(50)=.334$, $p=.740$ (95% CI: $-7.560 -$

10.577) but the indirect effect was, 95% CI: -12.121 - -0.309, point estimate = -4.801. Due to these findings, a further mediation analysis was carried out for average likelihood ratings with both LoC and BDI scores entered as mediators in the same model. The results of this analysis showed that the indirect effect via LoC remained significant, 95% CI: -12.202 - -0.094, point estimate = -6.039 but the effect via BDI did not, 95% CI: -10.323 – 2.463, point estimate = -1.800. The model was significant, $F(3,49)=5.894$, $p=.002$ and accounted for 27% of the variance, only a two percent increase on the variance accounted for by LoC alone.

Discussion

As hypothesised, there were no significant differences between LAYP and non-LAYP on the number, or types, of approach or avoidance goals produced. These findings are in line with those of the DfE (2010). However, contrary to the hypotheses, there were also no differences between the groups in their beliefs in the likelihood of achieving their goals or in their control over achieving them. These findings show that, in this sample, LAYP are beginning the transition to adulthood with the same thoughts about their future as their age-matched peers, suggesting there may be other factors which lead to the poorer outcomes typically found for LAYP in adulthood. Potential candidates for these factors are suggested by other findings in this study.

Salience of Avoidance Goals for LAYP

Subtle differences between the responses of the two groups suggested avoidance goals may be more salient for LAYP. Firstly, control participants named significantly more approach than avoidance goals, whereas LAYP did not show this pattern. Secondly, LAYP felt significantly more pessimistic about the likelihood of avoiding their avoidance goals than achieving their approach goals, whereas control participants did not.

Although there were no significant differences between the numbers of goals produced in each goal category by the two groups, descriptive statistics suggest potential differences between the groups with regards to the percentages of young people naming goals in some of the categories. It is notable that the categories in which there were striking differences (i.e. >20% discrepancy between groups) included the approach category 'education' and the avoidance categories 'homelessness' and 'substance misuse', all of which have been found to be areas in which young people leaving care have poorer outcomes than their age-matched peers (McClung & Gayle, 2010; Reilly, 2003; Wade & Dixon, 2006). Other categories showing this magnitude of discrepancy were those involving family, in which more control participants named goals than LAYP. These differences are perhaps due to LAYP's experiences in their birth families. Given the magnitude of the group differences, the lack of significant findings regarding goal categories is surprising and research with larger samples is needed to explore this further.

External Locus of Control

The finding that LAYP have a more external LoC than their age-matched peers is in line with research which has shown greater externality in other populations who have experienced abuse or neglect (Allen & Tarnowski, 1989; Barahal et al., 1981; Bolger & Patterson, 2001; Gwandure, 2007; Wiehe, 1987). The mediating role for LoC in the relationship between looked after status and future thinking shows that this external LoC leads to LAYP feeling they have less control over whether or not they achieve their goals and that their goals are less likely to be achieved. The theory of learned helplessness suggests it is their experiences of abuse, neglect and powerlessness within the care system which lead LAYP to have a sense that control of their lives is situated externally. These findings highlight the impact that LAYP's experiences have had on their sense of control and, ultimately, on their perception of the future.

In a qualitative study, McMurray et al. (2011, p. 217) found that LAYP ‘placed considerable emphasis upon being autonomous and having a sense of control in their lives’. Leeson (2007) highlighted the importance of involving LAYP in decisions about their lives in a meaningful way but also stated that there should not be pressure to always make the ‘right’ decision. As in Leeson’s (2007) research, the findings of the present study demonstrated young people’s anxiety about decision-making, as participants in both groups stated it would be important for them to avoid ‘making the wrong decisions’. In order to increase LAYP’s internal LoC, those working with this population need to facilitate experiences in which young people have a greater sense of control, are supported in making and reflecting upon decisions and in which they can experience behavioural contingency.

It is important to note that many of the situations of powerlessness which LAYP have experienced have been interpersonal. McLeod (2007) reported on a number of interactional devices LAYP used in conversations with her and with their social workers, including denial, resistance and diversionary tactics, which, she argued, helped them to redress the power imbalance. Hughes (2004) emphasised the importance of accepting LAYP’s resistance within therapy and being curious about this, allowing the young person control over the pacing of therapeutic work.

Fostering an Internal Locus of Control

Clinical psychologists have a role in providing both direct and indirect interventions to foster a more internal locus of control in LAYP. Psychologists may work indirectly with young people via those involved in their daily care, such as offering training to social workers, foster carers and residential workers on facilitating young people to develop a greater sense of control. Training around supporting young people with decisions may be particularly beneficial in fostering a more internal locus of control for LAYP. Such training needs to highlight the detrimental effect on a young person’s sense of agency which can arise

from consulting them on decisions when their views cannot be accommodated, such as in cases where the young person's choice of placement is not available. In addition, all practitioners need to be aware of focussing less on making the 'right' decision and placing more emphasis on the decision making process and supporting young people to develop these skills.

The development of decision making skills may also be incorporated into direct psychological interventions. The therapeutic space may be used, at times, to allow the young person to reflect upon the decisions they have to make, and any conflicting thoughts and emotions they may have about them, in order to facilitate the decision-making process in a non-judgemental way. Arguably the most important aspect of direct interventions with LAYP, however, is the use of the therapeutic relationship to foster a more internal locus of control. According to Hughes (2004), an important aspect of therapy with LAYP is the therapist's communication of their emotional responses to the young person's affect and experiences. This reflective communication aids young people to feel that they have an impact on the inner life of another person and therefore lays an essential foundation for the development of an internal locus of control.

Resilience Factors

The lack of a direct relationship between looked after status and future thinking, in the presence of an indirect effect via LoC, suggests that there may be another, unmeasured, variable working in the opposite direction. This suggests the possibility of a resilience factor for LAYP which positively influences their future thinking. Responses provided by some LAYP in the goals task suggest that part of this resilience may come from a determination to lead a different life from others they know. For example, one participant stated she wanted to 'be the child that proves everybody wrong – that we'ans in care are nae always the same' and another that it would be important to avoid 'going down the paths I've seen quite a lot of

folk that I know going down'. Herrenkohl, Herrenkohl and Egolf (1994) found resilience in adolescents who had experienced abuse or neglect stemmed partly from a determination to be different from their abusive parents.

According to self-determination theory, those goals which have personal importance and are consciously valued fall into the category of 'identified regulation', at the autonomous end of a continuum of intrinsic and extrinsic forms of motivation (Ryan & Deci, 2000). Therefore, those young people in this study who are determined to lead a more positive life than others around them are holding an autonomously regulated goal. Litalien, Lüdtke, Parker & Trautwein (2013), in a longitudinal study of young people transitioning to adulthood, found that autonomous goal regulation predicted subjective wellbeing two years later. Such autonomy may therefore be contributing to positivity in future thinking and, ultimately, to better outcomes for LAYP.

Role of Depression

The significantly higher level of depression in LAYP in this study highlights the extent of mental health need in this population. These findings support those of previous research (Dimigen et al., 1999; Ford et al., 2007; McCann et al., 1996) and can be explained by attachment theory, which suggests that depression develops when an individual holds a negative internal working model of themselves which has arisen from their experiences of neglectful or abusive care in childhood (Bowlby, 1973, 1980). In a systematic review of the literature, Brumariu and Kerns (2010) found evidence of a significant relationship between attachment and adolescent depression.

Poor mental health, in itself, may be considered an outcome upon which many young people leaving care are disadvantaged compared with their age-matched peers (Dixon, 2008). However, it is likely that high levels of depression also impact on a person's ability to achieve their goals due to the impact of depression on functioning (Wells, Stewart & Hays,

1989). Therefore, if depressed LAYP continue to experience depression, this may negatively impact on their outcomes in adulthood.

Limitations and Future Directions

The small sample size and the fact that the analyses were slightly underpowered means that caution should be taken when generalizing the findings of this study to the wider looked after and non-looked after populations of young people. In particular, it should be noted that the sample was self-selecting and therefore the participants may have been more motivated than the general population of looked after, or non-looked after, young people.

Furthermore, the findings of no significant mediating effect of depression in the presence of a mediating effect of LoC should be treated with caution due to the study having insufficient power to analyse multiple mediator models, especially in light of the findings of previous research on the impact of depression on future thinking (e.g. Dickson & MacLeod, 2006; MacLeod & Salaminiou, 2001; Miles et al., 2004; Moore et al., 2006). Examining multiple mediator models may have provided a more nuanced understanding of the complex relationships between looked after status and future thinking. In particular, further research is needed to explore the potential resilience factors for LAYP which promote their future thinking, thus counteracting the negative impact of external LoC. One potential area for study is that of autonomous goal regulation.

One potential confounding factor of the results may have been the timing of the research carried out with the control group as most of these young people were about to sit important school examinations. It is therefore possible that the control group showed higher levels of depression symptoms than they would have at other times and thus the difference in depression between looked after and non-looked after young people is even greater than that found in the present study. This hypothesis is supported by the relatively high levels of depression shown in the control group. It is also possible that their impending exams

impacted on the future thinking of the control group in that they may have been more present-focussed, which may have contributed to the lack of a significant difference in the future thinking between the LAYP and control groups.

It is possible that other variables, not measured in this study, also influenced young people's future thinking. For example, intelligence has been found to influence adolescents' optimism about the future (Klaczynski and Fauth, 1996; Nurmi & Pulliainen, 1991) and this was not taken into account in the present study. Interestingly, Nurmi and Pulliainen (1991) also found that aspects of the parent-child relationship, such as the degree of family discussion and the level of parental control, influenced adolescents' future thinking. It may be that LAYP do not experience important aspects of the parent-adolescent relationship which help to enhance young people's future orientation. This may particularly be the case for LAYP living in residential units and future research should aim to investigate whether there are differences in future thinking for those living in foster families compared to those cared for by staff teams.

Family composition may also have influenced the findings of the differences in depression and LoC between the groups as adolescents from two parent families were overrepresented in the control sample, with 79.3% living with both birth parents compared with 67% of children in the UK (Department for Work and Pensions, 2013). However, findings regarding the impact of family composition and divorce on adolescent depression are mixed (McFarlane, Bellissimo & Norman, 1995; Reinherz et al., 1993; Simons, Lin, Gordon, Conger & Lorenz, 1999). Whilst parental divorce may appear to be a disempowering experience which could contribute to a more external LoC, there is little research to support this and Hetherington and Stanley-Hagan (1999) argued that a child's LoC influences their adjustment to divorce, rather than is influenced by it. Future research, however, should aim to explore the contributions of family composition and family relationships on young people's LoC, depression and future thinking.

Conclusions

Although LAYP show comparable future thinking to their age-matched peers, there do appear to be subtle differences in the ways in which the two populations perceive the future. In particular, concerns about avoiding negative future outcomes appear to be more prevalent for LAYP. In addition, locus of control appears to have a critical role in the future thinking of LAYP and professionals working with this population should support young people to develop a more internal sense of control. In particular, they must pay attention to issues of power within relationships with LAYP in order to begin to redress their experiences of powerlessness within their early neglectful or abusive relationships and within the care system. However, the resiliency which also impacts on LAYP's future thinking should not be ignored and further research is needed to investigate the factors which help LAYP to think positively about their future.

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- Files should be saved as one of the following formats: TIFF (tagged image file format), PostScript or EPS (encapsulated PostScript), and should contain all the necessary font information and the source file of the application (e.g. CorelDraw/Mac, CorelDraw/PC).
- All figures must be numbered in the order in which they appear in the manuscript (e.g. Figure 1, Figure 2). In multi-part figures, each part should be labelled (e.g. Figure 1(a), Figure 1(b)).
- Figure captions must be saved separately, as part of the file containing the complete text of the manuscript, and numbered correspondingly.
- The filename for a graphic should be descriptive of the graphic, e.g. Figure1, Figure2a.

4. Publication charges

Appendix A. Author Guidelines for the journal *Attachment and Human Development*

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There is no submission fee for *Attachment & Human Development* .

Page charges

There are no page charges for *Attachment & Human Development* .

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6. Supplemental online material

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Authors are encouraged to submit animations, movie files, sound files or any additional information for online publication.

- Information about supplemental online material

Manuscript submission

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All submissions should be made online at the *Attachment & Human Development ScholarOne Manuscripts* website. New users should first create an account. Once logged on to the site, submissions should be made via the Author Centre. Online user guides and access to a helpdesk are available on this website.

Authors should prepare and upload two versions of their manuscript. One should be a complete text, while in the second all document information identifying the author should be removed from files to allow them to be sent anonymously to referees. When uploading files authors will then be able to define the non-anonymous version as "File not for review".

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Appendix A. Author Guidelines for the journal *Attachment and Human Development*

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Appendix B. Systematic Review Quality Assessment Rating Criteria

Criteria	Well-covered	Adequately addressed	Poorly addressed/Not addressed
1. Were the mediators/moderators proposed based on a theoretical framework	Detailed theory outlined drawing on previous research	Some justification for selection given but no overarching theory or justification based on little prior research	No theoretical justification given for choice of mediator/moderator
2. Did the study have adequate power to detect a mediated or moderated effect and was this power calculation reported?	Power $\geq .8$ and calculation reported	Power not reported but can be calculated from statistics presented and $\geq .8$	Power $< .8$ or cannot be calculated from data presented
3. Were the psychometric properties of the attachment measure within accepted ranges?	Cronbach's $\alpha \geq .8$ for all subscales used OR high inter-rater reliability ($\geq .8$)	Cronbach's $\alpha \geq .7 < .8$ for all or some of the subscales used where other subscales are $\geq .8$ OR inter-rater reliability ($\geq .7 < .8$)	Cronbach's $\alpha < .7$ for all or some of the subscales used OR low inter-rater reliability ($< .7$)
4. Were the psychometric properties of the depression measure within accepted ranges?	Cronbach's $\alpha \geq .8$ for all subscales used OR high inter-rater reliability ($\geq .8$)	Cronbach's $\alpha \geq .7 < .8$ for all or some of the subscales used where other subscales are $\geq .8$ OR inter-rater reliability ($\geq .7 < .8$)	Cronbach's $\alpha < .7$ for all or some of the subscales used OR low inter-rater reliability ($< .7$)
5. Were the psychometric properties of the measure used for the mediator/moderator within accepted ranges?	Cronbach's $\alpha \geq .8$ for all subscales used OR high inter-rater reliability ($\geq .8$)	Cronbach's $\alpha \geq .7 < .8$ for all or some of the subscales used where other subscales are $\geq .8$ OR inter-rater reliability ($\geq .7 < .8$)	Cronbach's $\alpha < .7$ for all or some of the subscales used OR low inter-rater reliability ($< .7$)

Appendix B. Systematic Review Quality Assessment Rating Criteria

Criteria	Well-covered	Adequately addressed	Poorly addressed/Not addressed
6. Were other variables, other than attachment and the mediator/moderator, which are known to be correlates of depression in adolescence controlled for?	Two or more variables controlled from: gender, age, SES, parental psychopathology, poor social support, stressful life events, including abuse/trauma and loss	One variable controlled from: gender, age, SES, parental psychopathology, poor social support, stressful life events, including abuse/trauma and loss	No control for other correlates of depression in adolescence
7. Did the study use an appropriate statistical test of mediation/moderation	Used an appropriate statistical inference test of mediation or moderation	Used a non-statistical test of mediation or moderation, such as the causal steps method or an inappropriate test, such as using the Sobel test without testing for normality	Does not use a test of mediation or moderation
8. Did the study have good ecological validity with regards to a clinically-relevant population and setting?	Study of clinically-depressed adolescents from inpatient or out-patient setting	Population study but sample selected from those with higher depression scores or those with risk factors for depression	Population-based study

Appendix C. Author Guidelines for the *Journal of Adolescence*

Introduction

The Journal is an international, broadly based, cross-disciplinary, peer-reviewed journal addressing issues of professional and academic importance to people interested in adolescent development. The Journal aims to enhance theory, research and clinical practice in adolescence through the publication of papers concerned with the nature of adolescence, interventions to promote successful functioning during adolescence, and the management and treatment of disorders occurring during adolescence. We welcome relevant contributions from all disciplinary areas.

For the purpose of the Journal, adolescence is considered to be the developmental period between childhood and the attainment of adult status within a person's community and culture. As a practical matter, published articles typically focus on youth between the ages of 10 and 25. However, it is important to note that JoA focuses on adolescence as a *developmental period*, and this criterion is more important than age per se in determining whether the subject population or article is appropriate for publication.

The Journal publishes both qualitative and quantitative research. While the majority of the articles published in the Journal are reports of empirical research studies, the Journal also publishes reviews of the literature, when such reviews are strongly empirically based and provide the basis for extending knowledge in the field. Authors are encouraged to read recent issues of the Journal to get a clear understanding of style and topic range.

Types of contributions

Specific instructions for different manuscript types

Full research articles: The majority of the articles carried in the Journal are full research articles of up to 5000 words long. The word count relates to the body of the article. The abstract, references, tables, figures and appendices are not included in the count. These can report the results of research (including evaluations of interventions), or be critical reviews, meta-analyses, etc. Authors are encouraged to consult back issues of the Journal to get a sense of coverage and style, but should not necessarily feel confined by this. Articles should clearly make a new contribution to the existing literature and advance our understanding of adolescent development.

Brief reports: The Editors will consider Brief Reports of between 1000 and 1500 words (three to five typewritten pages). This format should be used for reports of findings from the early stages of a program of research, replications (and failures to replicate) previously reported findings, results of studies with sampling or methodological problems that have yielded findings of sufficient interest to warrant publication, results of well designed studies in which important theoretical propositions have not been confirmed, and creative theoretical contributions that have yet to be studied empirically. The title of the Brief Report should start with the words: "Brief Report:" A footnote should be included if a full-length report is available upon request from the author (s).

International notes: The Journal is interested in developing a new format for the very brief reporting of research replications from developing countries and places with a less well supported adolescence research field, where it may be difficult to find international publication outlets and bring the work to the attention of a wider audience. International Briefs would be published as a very brief summary in the Journal (up to 1000 words in length), with a fuller version available as on-line supplementary material (see above). They are likely to focus on local replications of well-known phenomena or findings.



Before You Begin

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For information on Ethics in publishing and Ethical guidelines for journal publication see <http://www.elsevier.com/publishingethics> and <http://www.elsevier.com/journal-authors/ethics>.

Conflict of interest

Appendix C. Author Guidelines for the *Journal of Adolescence*

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Submit your article

Please submit your article via <http://ees.elsevier.com/yjado/>

Additional information

The Journal considers full Research Articles (up to 5,000 words), Brief Reports (up to 1,500 words), and International Notes (1,000 words). All manuscripts should observe the following rules about presentation. The word count relates to the body of the article. The abstract, references, tables, figures and appendices are not included in the count.

GENERAL STYLE: The Journal follows the current American Psychological Association style guide. Papers that are not submitted in APA style are likely to be returned to authors. You are referred to their Publication Manual, Sixth Edition, copies of which may be ordered from <http://www.apa.org/pubs/books/4200066.aspx>, or APA order Dept, POB 2710, Hyattsville, MD 20784, USA, or APA, 3 Henrietta Street, London, WC3E 8LU, UK. There are also abbreviated guides freely available on the web. Text should be written in English (American or British usage is accepted, but not a mixture of these). Italics are not to be used for expressions of Latin origin, for example, *in vivo*, *et al.*, *per se*. Use decimal points (not commas); use a space for thousands (10 000 and above). If (and only if) abbreviations are essential, define those that are not standard in this field at their first occurrence in the article: in the abstract but also in the main text after it. Ensure consistency of abbreviations throughout the article.

Manuscripts must be typewritten using double spacing and wide (3 cm) margins. (Avoid dull justification, i.e., do not use a constant right-hand margin). Ensure that each new paragraph is clearly indicated. Present tables and figure legends on separate pages in separate electronic files. If possible, consult a recent issue of the Journal to become familiar with layout and conventions. Number all pages

consecutively.  **Preparation**

Use of word processing software

It is important that the file be saved in the native format of the word processor used. The text should be in single-column format. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. In particular, do not use the word processor's options to justify text or to hyphenate words. However, do use bold face, italics, subscripts, superscripts etc. When preparing tables, if you are using a table grid, use only one grid for each individual table and not a grid for each row. If no grid is used, use tabs, not spaces, to align columns. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier: <http://www.elsevier.com/guidepublication>). Note that source files of figures, tables and text graphics will be required whether or not you embed your figures in the text. See also the section on Electronic artwork.

To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

Article structure

Subdivision - unnumbered sections

Divide your article into clearly defined sections. Each subsection is given a brief heading. Each heading should appear on its own separate line. Subsections should be used as much as possible when cross-referencing text: refer to the subsection by heading as opposed to simply 'the text'.

Appendices

If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

Essential title page information

- **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid

Appendix C. Author Guidelines for the *Journal of Adolescence*

abbreviations and formulae where possible.

- **Author names and affiliations.** Where the family name may be ambiguous (e.g., a double name), please indicate this clearly. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.

- **Corresponding author.** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. **Ensure that phone numbers (with country and area code) are provided in addition to the e-mail address and the complete postal address. Contact details must be kept up to date by the corresponding author.**

- **Present/permanent address.** If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

Abstract

A concise and factual abstract is required (maximum length 150 words). The abstract should state briefly the purpose of the research, the principle results and major conclusions. An abstract is often presented separate from the article, so it must be able to stand alone. References should therefore be avoided, but if essential, they must be cited in full, without reference to the reference list.

Graphical abstract

A Graphical abstract is optional and should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership online. Authors must provide images that clearly represent the work described in the article. Graphical abstracts should be submitted as a separate file in the online submission system. Image size: Please provide an image with a minimum of 531 × 1328 pixels (h × w) or proportionally more. The image should be readable at a size of 5 × 13 cm using a regular screen resolution of 96 dpi. Preferred file types: TIFF, EPS, PDF or MS Office files. See <http://www.elsevier.com/graphicalabstracts> for examples.

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Highlights are a short collection of bullet points that convey the core findings of the article. Highlights are optional and should be submitted in a separate file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point). See <http://www.elsevier.com/highlights> for examples.

Keywords

Immediately after the abstract, provide a maximum of 6 keywords, using British spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

Abbreviations

Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

Acknowledgements

Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those

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individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

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Electronic artwork

General points

- Make sure you use uniform lettering and sizing of your original artwork.
- Embed the used fonts if the application provides that option.
- Aim to use the following fonts in your illustrations: Arial, Courier, Times New Roman, Symbol, or use fonts that look similar.
- Number the illustrations according to their sequence in the text.
- Use a logical naming convention for your artwork files.
- Provide captions to illustrations separately.
- Size the illustrations close to the desired dimensions of the printed version.
- Submit each illustration as a separate file.

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<http://www.elsevier.com/artworkinstructions>

You are urged to visit this site; some excerpts from the detailed information are given here.

Formats

If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply 'as is' in the native document format.

Regardless of the application used other than Microsoft Office, when your electronic artwork is finalized, please 'Save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):

EPS (or PDF): Vector drawings, embed all used fonts.

TIFF (or JPEG): Color or grayscale photographs (halftones), keep to a minimum of 300 dpi.

TIFF (or JPEG): Bitmapped (pure black & white pixels) line drawings, keep to a minimum of 1000 dpi.

TIFF (or JPEG): Combinations bitmapped line/half-tone (color or grayscale), keep to a minimum of 500 dpi.

Please do not:

- Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); these typically have a low number of pixels and limited set of colors;
- Supply files that are too low in resolution;
- Submit graphics that are disproportionately large for the content.

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Ensure that each illustration has a caption. Supply captions separately, not attached to the figure. A caption should comprise a brief title (**not** on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.

Tables

Number tables consecutively in accordance with their appearance in the text. Place footnotes to tables

Appendix C. Author Guidelines for the *Journal of Adolescence*

below the table body and indicate them with superscript lowercase letters. Avoid vertical rules. Be sparing in the use of tables and ensure that the data presented in tables do not duplicate results described elsewhere in the article.

References

Citation in text

Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

Web references

As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

Reference management software

This journal has standard templates available in key reference management packages EndNote (<http://www.endnote.com/support/enstyles.asp>) and Reference Manager (<http://refman.com/support/rmstyles.asp>). Using plug-ins to wordprocessing packages, authors only need to select the appropriate journal template when preparing their article and the list of references and citations to these will be formatted according to the journal style which is described below.

Reference style

Text: Citations in the text should follow the referencing style used by the American Psychological Association. You are referred to the Publication Manual of the American Psychological Association, Sixth Edition, ISBN 978-1-4338-0561-5, copies of which may be ordered from <http://books.apa.org/books.cfm?id=4200067> or APA Order Dept., P.O.B. 2710, Hyattsville, MD 20784, USA or APA, 3 Henrietta Street, London, WC3E 8LU, UK.

List: references should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters 'a', 'b', 'c', etc., placed after the year of publication.

Examples:

Reference to a journal publication:

Van der Geer, J., Hanraads, J. A. J., & Lupton, R. A. (2010). The art of writing a scientific article. *Journal of Scientific Communications*, 163, 51–59.

Reference to a book:

Strunk, W., Jr., & White, E. B. (2000). *The elements of style*. (4th ed.). New York: Longman, (Chapter 4).

Reference to a chapter in an edited book:

Mettam, G. R., & Adams, L. B. (2009). How to prepare an electronic version of your article. In B. S. Jones, & R. Z. Smith (Eds.), *Introduction to the electronic age* (pp. 281–304). New York: E-Publishing Inc.

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Appendix C. Author Guidelines for the *Journal of Adolescence*

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- E-mail address
- Full postal address
- Phone numbers

All necessary files have been uploaded, and contain:

- Keywords
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- All tables (including title, description, footnotes)

Further considerations

- Manuscript has been 'spell-checked' and 'grammar-checked'
- References are in the correct format for this journal
- All references mentioned in the Reference list are cited in the text, and vice versa
- Permission has been obtained for use of copyrighted material from other sources (including the Web)
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<http://dx.doi.org/10.1016/j.physletb.2010.09.059>

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Appendix D. Future Goals Task Scripts

Future Goals Script 1

First of all we're going to do a practice task in which I'm going to ask you to tell me as many animals as you can. You will have 75 seconds to do this so just keep going until I tell you to stop. I'm going to record you saying these in case I can't write them down fast enough. This recording will be deleted once I have listened to it and checked that I have all your answers. Do you have any questions?

So, I want you to tell me as many animals as you can think of. Go.

Appendix D. Future Goals Task Scripts

Now we're going to do a similar thing but this time I want you to tell me about your goals for the future. So, again you'll have 75 seconds and this time you should finish this sentence: In the future it will be important for me to... Any questions?

Ready? Go.

For the last one you're going to do exactly the same thing except this time finishing off the sentence: In the future it will be important for me to avoid... OK? Go.

Appendix D. Future Goals Task Scripts

OK, now I want you to pick the two most important goals from each of the boxes above and I'm going to write them in the spaces below.

Goal 1:

How likely do you think it is that you will achieve this goal? Mark with a X how likely you believe this is on the following line between 0 (not at all likely) and 10 (completely likely). For example, if you thought it was equally as likely to happen as unlikely to happen you would put a X in the centre of the line.

0 10

How much control do you think you personally have over achieving this goal? Mark with a X how much control you believe you have over this on the following line between 0 (no control at all) and 10 (complete control). For example, if you thought you had 50% control over achieving the goal but 50% of what would need to happen to achieve the goal was out of your control you would put a X in the centre of the line'

0 10

Goal 2:

How likely do you think it is that you will achieve this goal? Mark with a X how likely you believe this is on the following line between 0 (not at all likely) and 10 (completely likely). For example, if you thought it was equally as likely to happen as unlikely to happen you would put a X in the centre of the line.

0 10

Appendix D. Future Goals Task Scripts

How much control do you think you personally have over achieving this goal? Mark with a X how much control you believe you have over this on the following line between 0 (no control at all) and 10 (complete control). For example, if you thought you had 50% control over achieving the goal but 50% of what would need to happen to achieve the goal was out of your control you would put a X in the centre of the line'

0 10

Goal 3:

How likely do you think it is that you will be able to avoid this? Mark with a X how likely you believe this is on the following line between 0 (not at all likely) and 10 (completely likely). For example, if you thought it was equally as likely to happen as unlikely to happen you would put a X in the centre of the line.

0 10

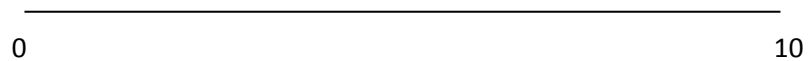
How much control do you think you personally have over avoiding this? Mark with a X how much control you believe you have over this on the following line between 0 (no control at all) and 10 (complete control). For example, if you thought you had 50% control over avoidin the goal but 50% of what would need to happen to avoid the goal was out of your control you would put a X in the centre of the line'

0 10

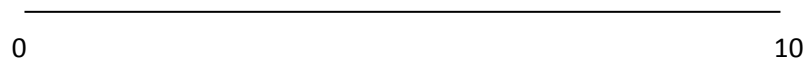
Appendix D. Future Goals Task Scripts

Goal 4:

How likely do you think it is that you will be able to avoid this? Mark with a X how likely you believe this is on the following line between 0 (not at all likely) and 10 (completely likely). For example, if you thought it was equally as likely to happen as unlikely to happen you would put a X in the centre of the line.



How much control do you think you personally have over avoiding this? Mark with a X how much control you believe you have over this on the following line between 0 (no control at all) and 10 (complete control). For example, if you thought you had 50% control over avoiding the goal but 50% of what would need to happen to avoid the goal was out of your control you would put a X in the centre of the line'



Appendix D. Future Goals Task Scripts

Future Goals Script 2

First of all we're going to do a practice task in which I'm going to ask you to tell me as many animals as you can. You will have 75 seconds to do this so just keep going until I tell you to stop. I'm going to record you saying these in case I can't write them down fast enough. This recording will be deleted once I have listened to it and checked that I have all your answers. Do you have any questions?

So, I want you to tell me as many animals as you can think of. Go.

Appendix D. Future Goals Task Scripts

Now we're going to do a similar thing but this time I want you to tell me about your goals for the future. So, again you'll have 75 seconds and this time you should finish this sentence: In the future it will be important for me to avoid... Any questions?

Ready? Go.

For the last one you're going to do exactly the same thing except this time finishing off the sentence: In the future it will be important for me to... OK? Go.

Appendix D. Future Goals Task Scripts

OK, now I want you to pick the two most important goals from each of the boxes above and I'm going to write them in the spaces below.

Goal 1:

How likely do you think it is that you will be able to avoid this? Mark with a X how likely you believe this is on the following line between 0 (not at all likely) and 10 (completely likely). For example, if you thought it was equally as likely to happen as unlikely to happen you would put a X in the centre of the line.

0 10

How much control do you think you personally have over avoiding this? Mark with a X how much control you believe you have over this on the following line between 0 (no control at all) and 10 (complete control). For example, if you thought you had 50% control over avoidin the goal but 50% of what would need to happen to avoid the goal was out of your control you would put a X in the centre of the line'

0 10

Goal 2:

How likely do you think it is that you will be able to avoid this? Mark with a X how likely you believe this is on the following line between 0 (not at all likely) and 10 (completely likely). For example, if you thought it was equally as likely to happen as unlikely to happen you would put a X in the centre of the line.

0 10

Appendix D. Future Goals Task Scripts

How much control do you think you personally have over avoiding this? Mark with a X how much control you believe you have over this on the following line between 0 (no control at all) and 10 (complete control). For example, if you thought you had 50% control over avoiding the goal but 50% of what would need to happen to avoid the goal was out of your control you would put a X in the centre of the line'

0 10

Goal 3:

How likely do you think it is that you will achieve this goal? Mark with a X how likely you believe this is on the following line between 0 (not at all likely) and 10 (completely likely). For example, if you thought it was equally as likely to happen as unlikely to happen you would put a X in the centre of the line.

0 10

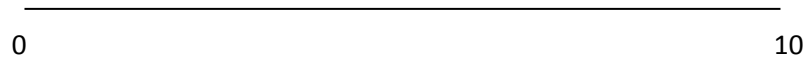
How much control do you think you personally have over achieving this goal? Mark with a X how much control you believe you have over this on the following line between 0 (no control at all) and 10 (complete control). For example, if you thought you had 50% control over achieving the goal but 50% of what would need to happen to achieve the goal was out of your control you would put a X in the centre of the line'

0 10

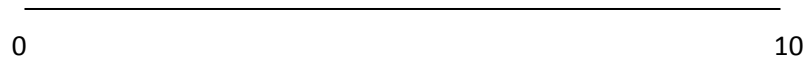
Appendix D. Future Goals Task Scripts

Goal 4:

How likely do you think it is that you will achieve this goal? Mark with a X how likely you believe this is on the following line between 0 (not at all likely) and 10 (completely likely). For example, if you thought it was equally as likely to happen as unlikely to happen you would put a X in the centre of the line.



How much control do you think you personally have over achieving this goal? Mark with a X how much control you believe you have over this on the following line between 0 (no control at all) and 10 (complete control). For example, if you thought you had 50% control over achieving the goal but 50% of what would need to happen to achieve the goal was out of your control you would put a X in the centre of the line'



Appendix E. Goal Category Development Table

Approach Goals

Broad Category	Initial Categories
Employment	<ul style="list-style-type: none"> • Employment/job
Education	<ul style="list-style-type: none"> • Further education • Pass exams/course • Finish school
Children	<ul style="list-style-type: none"> • Children/having a family
Housing	<ul style="list-style-type: none"> • Housing
Friendships	<ul style="list-style-type: none"> • Good relationships with friends • Make friends
Money	<ul style="list-style-type: none"> • Make good money/Save money
Travel	<ul style="list-style-type: none"> • Holidays • Travel/live abroad • Move abroad
Family	<ul style="list-style-type: none"> • Contact with family • Good relationships with family • Support my family
Health	<ul style="list-style-type: none"> • Keep fit/healthy/look after myself • Eat well • Good sleep
Experiences or Hobbies	<ul style="list-style-type: none"> • Experiences • Hobbies • Events
Marriage or partner	<ul style="list-style-type: none"> • Marriage/partner
Achieving goals or life satisfaction	<ul style="list-style-type: none"> • Job satisfaction/life satisfaction • Achieve goals • Have a chance to be able to do what I want
Leading a good life	<ul style="list-style-type: none"> • Lead a good life • Be settled • Work hard • Be kind to people • Obey the law • Make the right decisions
Happiness or enjoyment	<ul style="list-style-type: none"> • Happiness • Fun/enjoy life
Belongings	<ul style="list-style-type: none"> • Car • Clothes/belongings
Having own business	<ul style="list-style-type: none"> • Have own business
Helping others	<ul style="list-style-type: none"> • Help others • Volunteer
Driving	<ul style="list-style-type: none"> • Learn to drive
Pets	<ul style="list-style-type: none"> • Pets
Trying my best	<ul style="list-style-type: none"> • Give my all/try my best • Stay motivated
Good habits	<ul style="list-style-type: none"> • Be on time/organised

Appendix E. Goal Category Development Table

Moving on	<ul style="list-style-type: none"> • Move on from current accommodation
Love	<ul style="list-style-type: none"> • Love
Broad Category	Initial Categories
Retirement	<ul style="list-style-type: none"> • Retirement • Have a good pension
Proving people wrong	<ul style="list-style-type: none"> • Prove people wrong about kids in care
Making family proud	<ul style="list-style-type: none"> • Make family proud

Avoidance Goals

Broad Category	Initial Categories
Trouble (with police)	<ul style="list-style-type: none"> • Trouble (with police)/prison • Murder
Money problems	<ul style="list-style-type: none"> • Debt/not having enough money
Unemployment	<ul style="list-style-type: none"> • Unemployment/losing job
Substance misuse	<ul style="list-style-type: none"> • Alcohol/drugs
Failing educationally	<ul style="list-style-type: none"> • Failing exams/not doing well in school • Not completing education/poor attendance • Not getting into college/university • Not having a placement
Failing to achieve goals/satisfaction	<ul style="list-style-type: none"> • Not doing anything with life • Failing • Not making a change to the world • Feeling unsatisfied • Not achieving goals/doing what I want • Working in a job I don't enjoy • Not having time to enjoy myself • Unhappiness
Homelessness	<ul style="list-style-type: none"> • Homelessness/eviction from house
Falling in with negative peers	<ul style="list-style-type: none"> • Getting in with the wrong crowd
Making wrong decisions/mistakes	<ul style="list-style-type: none"> • Making wrong decisions/not being in control of decisions/making mistakes
Hurting others	<ul style="list-style-type: none"> • Hurting others
Health issues	<ul style="list-style-type: none"> • Hospital/illness/injury • Being unhealthy
Losing friends/family or seeing them hurt	<ul style="list-style-type: none"> • Losing friends/family/seeing them get hurt
Being away from family	<ul style="list-style-type: none"> • Not being with family/losing touch with family • Not having time for family
Death	<ul style="list-style-type: none"> • Suicide/death
Negative habits	<ul style="list-style-type: none"> • Poor sleep pattern • Current negative behaviours • Bad time-keeping • Lying
Conflict	<ul style="list-style-type: none"> • Conflict/fighting

Appendix E. Goal Category Development Table

Being dislikeable person	<ul style="list-style-type: none"> • Being undesirable/bad/disliked
Particular people	<ul style="list-style-type: none"> • Particular people
Poor mental health	<ul style="list-style-type: none"> • Poor mental health
Not having a family	<ul style="list-style-type: none"> • Infertility/not having a family
Broad Category	Initial Categories
Being alone	<ul style="list-style-type: none"> • Being alone • Not having friends
Bad or abusive relationships	<ul style="list-style-type: none"> • Bad relationships • Physical abuse
Putting self in danger	<ul style="list-style-type: none"> • Putting self in danger
Having children too young	<ul style="list-style-type: none"> • Having children too early
Divorce	<ul style="list-style-type: none"> • Divorce
Social work involvement	<ul style="list-style-type: none"> • Social work
Following slippery slope of others	<ul style="list-style-type: none"> • Following slippery slope of others
Giving up	<ul style="list-style-type: none"> • Giving up
Failing to achieve career choice	<ul style="list-style-type: none"> • Not becoming specific profession

Appendix F. Children's Nowicki Strickland Internal-External Scale

CNSIE

YES NO

- | | | |
|-------|-------|---|
| _____ | _____ | 1. Do you believe that most problems will solve themselves if you just don't fool with them? |
| _____ | _____ | 2. Do you believe that you can stop yourself from catching a cold? |
| _____ | _____ | 3. Are some kids just born lucky? |
| _____ | _____ | 4. Most of the time, do you feel that getting good grades means a great deal to you? |
| _____ | _____ | 5. Are you often blamed for things that just aren't your fault? |
| _____ | _____ | 6. Do you believe that if somebody studies hard enough he or she can pass any subject? |
| _____ | _____ | 7. Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway? |
| _____ | _____ | 8. Do you feel that if things start out well in the morning that it's going to be a good day no matter what you do? |
| _____ | _____ | 9. Do you feel that most of the time parents listen to what their children have to say? |
| _____ | _____ | 10. Do you believe that wishing can make good things happen? |
| _____ | _____ | 11. When you get punished, does it usually seem it's for no good reason at all? |
| _____ | _____ | 12. Most of the time, do you find it hard to change a friend's (mind) opinion? |
| _____ | _____ | 13. Do you think that cheering more than luck helps a team to win? |
| _____ | _____ | 14. Do you feel that it's nearly impossible to change your parent's or carer's mind about anything? |
| _____ | _____ | 15. Do you believe that your parents or carers should allow you to make most of your own decisions? |
| _____ | _____ | 16. Do you feel that when you do something wrong there's very little you can do to make it right? |
| _____ | _____ | 17. Do you believe that most kids are just born good at sports? |
| _____ | _____ | 18. Are most of the other kids your age stronger than you are? |
| _____ | _____ | 19. Do you feel that one of the best ways to handle most problems is just not to think about them? |
| _____ | _____ | 20. Do you feel that you have a lot of choice in deciding who your friends are? |
| _____ | _____ | 21. If you find a four leaf clover, do you believe that it might bring you good luck? |
| _____ | _____ | 22. Do you often feel that whether you do your homework has much to do with what kind of grades you get? |

Appendix F. Children's Nowicki Strickland Internal-External Scale

- _____ 23. Do you feel that when a kid your age decides to hit you, there's little you can do to stop him or her?
- _____ 24. Have you ever had a good luck charm?
- _____ 25. Do you believe that whether or not people like you depends on how you act?
- _____ 26. Will your parents or carers usually help you if you ask them to?
- _____ 27. Have you felt that when people were mean to you it was usually for no reason at all?
- _____ 28. Most of the time, do you feel that you can change what might happen tomorrow by what you do today?
- _____ 29. Do you believe that when bad things are going to happen they just are going to happen no matter what you try to do to stop them?
- _____ 30. Do you think that kids can get their own way if they just keep trying?
- _____ 31. Most of the time, do you find it useless to try to get your own way at home?
- _____ 32. Do you feel that when good things happen they happen because of hard work?
- _____ 33. Do you feel that when somebody your age wants to be your enemy there's little you can do to change matters?
- _____ 34. Do you feel that it's easy to get friends to do what you want them to?
- _____ 35. Do you usually feel that you have little to say about what you get to eat at home?
- _____ 36. Do you feel that when someone doesn't like you there's little you can do about it?
- _____ 37. Do you usually feel that it's almost useless to try in school because most other children are just plain smarter than you are?
- _____ 38. Are you the kind of person who believes that planning ahead makes things turn out better?
- _____ 39. Most of the time, do you feel that you have little to say about what your family decides to do?
- _____ 40. Do you think it's better to be smart than to be lucky?

Appendix G. Personal Details Questionnaire

Participant ID: _____

Gender: ☐ Male ☐ Female

Age: _____

1. What ethnicity are you? _____

2. Who do you currently live with? (Tick all that apply)

- | | |
|---|---|
| <input type="checkbox"/> My foster carers | <input type="checkbox"/> My birth mum |
| <input type="checkbox"/> Carers in a children's house | <input type="checkbox"/> My birth dad |
| <input type="checkbox"/> My adoptive parents | <input type="checkbox"/> A relative or relatives: _____ |
| <input type="checkbox"/> My step-mum | <input type="checkbox"/> A flatmate or flatmates |
| <input type="checkbox"/> My step-dad | <input type="checkbox"/> Nobody, I live on my own |
| <input type="checkbox"/> Other _____ | |

3. How long have you lived with these parents/carers/flatmates/on your own?

4. Who have you lived with in the past? (Tick all that apply)

- | | |
|---|---|
| <input type="checkbox"/> My foster carers | <input type="checkbox"/> My birth mum |
| <input type="checkbox"/> Carers in a children's house | <input type="checkbox"/> My birth dad |
| <input type="checkbox"/> My adoptive parents | <input type="checkbox"/> A relative or relatives: _____ |
| <input type="checkbox"/> My step-mum | <input type="checkbox"/> A flatmate or flatmates |
| <input type="checkbox"/> My step-dad | <input type="checkbox"/> Nobody, I live on my own |
| <input type="checkbox"/> Other _____ | |

5. How many sets of parents/carers have you lived with in your life? _____

6. If you no longer live with your birth parent or parents, at what age did you first stop living with them? _____

7. Are you currently:

- ☐ Attending school
☐ Attending college
☐ Doing an apprenticeship
☐ Unemployed
☐ Working
☐ Other _____

8. If you're attending school, what year are you in? _____

Appendix H. Ethical Approval and Research Access Letters

WoSRES West of Scotland Research Ethics Service	NHS Greater Glasgow and Clyde
	West of Scotland REC 3 Ground Floor – The Tennent Institute Western Infirmary 38 Church Street Glasgow G11 6NT www.nhsggc.org.uk
Ms. Holly West Trainee Clinical Psychologist	Date 16 th December 2013 Your Ref Our Ref Direct line 0141 211 2123 Fax 0141 211 1847 E-mail Liz.Jamieson@

Dear Ms West

Study title:	Future thinking in looked after young people: The impact of locus of control
REC reference:	13/WS/0246
IRAS project ID:	124076

Thank you for your recent email. I can confirm the REC has received the documents listed below and that these comply with the approval conditions detailed in our letter dated 10 December 2013

Documents received

The documents received were as follows:

Document	Version	Date
Participant Consent Form	02	01 November 2013

Approved documents

The final list of approved documentation for the study is therefore as follows:

Document	Version	Date
Evidence of insurance or indemnity		22 July 2013
Investigator CV		
Letter of invitation to participant	1	01 November 2013
Other: CV - Academic Supervisor M Gervais		
Other: CV Academic supervisor J Cossar		04 September 2013

Appendix H. Ethical Approval and Research Access Letters

Other: Email from Quality Improvement Service		01 November 2013
Participant Consent Form: Parents - Do wish to attend - School Age Child	1	25 October 2013
Participant Consent Form: Parents - Do wish to attend - School Age Child	1	25 October 2013
Participant Consent Form	02	01 November 2013
Participant Information Sheet:	2	25 October 2013
Protocol	2	25 October 2013
Questionnaire: Beck Depression Inventory - Validated		
Questionnaire: Validated - CNSIE(Child Nowicki-Strickland Internal-External scale)		
Questionnaire: Future Goals Scripts 1 and 2	1	21 October 2013
Questionnaire: Demographics	1	31 May 2013
REC application		10 September 2013
Response to Request for Further Information		01 November 2013

You should ensure that the sponsor has a copy of the final documentation for the study. It is the sponsor's responsibility to ensure that the documentation is made available to R&D offices at all participating sites.

13/WS/0246 Please quote this number on all correspondence

Yours sincerely

Liz Jamieson

Mrs Liz Jamieson
Committee Co-ordinator

Copy to: Ms Marianne Laird, Edinburgh University
Dr Karen Maitland, NHS Lothian R&D

Document	Date
Participant Consent Form	01 November 2013

Document	Date
Letter of invitation to participate	01 November 2013
Other CV - Academic supervisor M. Cairns	04 September 2013
Other CV Academic supervisor J. Cairns	

Appendix H. Ethical Approval and Research Access Letters

NHS Lanarkshire Research & Development: Amendment Approval Letter		Project I.D. L13104_GE52	
<div style="border: 1px solid black; height: 50px; width: 100%;"></div>		<div style="border: 1px solid black; height: 50px; width: 100%;"></div>	
Ms Holly West Trainee Clinical Psychologist		R&D Department	
<div style="border: 1px solid black; height: 50px; width: 100%;"></div>		<div style="border: 1px solid black; height: 50px; width: 100%;"></div>	
Date		17 December 2013	
Enquiries to		<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
Direct Line		<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
Email		<div style="border: 1px solid black; height: 30px; width: 100%;"></div>	
Dear Ms West			
Project title: Future thinking in looked after young people: The impact of locus of control			
R&D ID: L13104_GE52			
NRS ID Number: NRS13/MH114			
I am writing to you as Chief Investigator of the above study to advise that R&D Management approval has been granted for the conduct of your study within N as detailed below:			
NAME	TITLE	ROLE	NHSL SITE TO WHICH APPROVAL APPLIES
	Clinical Psychologist	Local Collaborator	
For the study to be carried out you are subject to the following conditions:			
Conditions			
<ul style="list-style-type: none">You are required to comply with Good Clinical Practice, Ethics Guidelines, Health & Safety Act 1999 and the Data Protection Act 1998.The research is carried out in accordance with the Scottish Executive's Research Governance Framework for Health and Community Care (copy available via the Chief Scientist Office website: http://www.show.scot.nhs.uk/cso/ or the Research & Development Intranet site: <div style="border: 1px solid black; height: 20px; width: 100%;"></div>You must ensure that all confidential information is maintained in secure storage. You are further obligated under this agreement to report to the Data Protection Office and the Research & Development Office infringements, either by accident or otherwise, which constitutes a breach of confidentiality.			
L13104_GE52_FutureThinkingInLookedAfterYoungPeople_ManagementApproval_171213		Page 1 of 2	
Cont...			

Appendix H. Ethical Approval and Research Access Letters

- Clinical trial agreements (if applicable), or any other agreements in relation to the study, have been signed off by all relevant signatories.
- You must contact the R&D Department if/when the project is subject to any minor or substantial amendments so that these can be appropriately assessed, and approved, where necessary.
- You notify the R&D Department if any additional researchers become involved in the project within NHS
- You notify the R&D Department when you have completed your research, or if you decide to terminate it prematurely.
- You must send brief annual reports followed by a final report and summary to the R&D office in hard copy and electronic formats as well as any publications.
- If the research involves any investigators who are not employed by , but who will be dealing with patients, there may be a requirement for an SCRO check and occupational health assessment. If this is the case then please contact the R&D Department to make arrangements for this to be undertaken and an honorary contract issued.

I trust these conditions are acceptable to you.

Yours sincerely,

cc.

NAME	TITLE	CONTACT ADDRESS	ROLE
	Clinical Psychologist		Local Collaborator
Dr Raymond French	Research Governance Manager	University of Edinburgh	Sponsor Contact

c.c – (email)

nhsq.nrscc@nhs.net

Appendix H. Ethical Approval and Research Access Letters

Research and Development Office
Administration Offices

PRIVATE & CONFIDENTIAL

Date: 15 Jan 2014

Ms. Holly West
Trainee Clinical Psychologist

Dear Ms West

Study title: Future thinking in looked after young people: The impact of locus of control
REC reference: 13/WS/0246

This letter confirms your right of access to conduct research through [redacted] for the purpose and on the terms and conditions set out below. This right of access commences on **when you return a signed copy of this Letter** and ends on **1 May 2014** unless terminated earlier in accordance with the clauses below

DETAILS OF ACCESS

You have a right of access to conduct such research as confirmed in writing in the letter of permission for research from this NHS organisation. Please note that you cannot start the research until the Chief Investigator for the research project has received a letter from us giving permission to conduct the project.

The information supplied about your role in research at [redacted] has been reviewed and you do not require an honorary research contract with this NHS organisation. We are satisfied that such pre-engagement checks as we consider necessary have been carried out. If your current role or involvement in research changes, or any of the information provided in your Research Passport changes, you must inform your employer through their normal procedures. You must also inform your nominated manager in this NHS organisation.

Your activities in [redacted] under this agreement will be **carrying out interviews with study participants**. Your named contacts for the duration of the study will be **Dr. [redacted], clinical contact** and [redacted]

CONDUCT

Page 1 of 4

Appendix H. Ethical Approval and Research Access Letters

You must carry out your duties under this contract in accordance with policies, practices and procedures established by the Board and varied from time to time.] Board

manages all research in accordance with the requirements of the Scottish Executive Research Governance Framework for Health and Community Care. While carrying out research within

you must comply with all reporting requirements, systems and duties of action put in place by the Board to deliver research governance where this is relevant to your work with the Board. You are also required to comply with all laws and statutes applicable to the performance of the study including, but not limited to, the Human Rights Act 1998, the Data Protection Act 1998, the Medicines Act 1968, the Medicines for Human Use (Clinical Trial) Regulations 2004, and with all relevant guidance relating to medicines and clinical trials from time to time in force including, but not limited to, the ICH GCP and the World Medical Association Declaration of Helsinki entitled 'Ethical Principles for Medical Research Involving Human Subjects' (1996 version). You are required to co-operate with

in discharging its duties under the Health and Safety at Work etc Act 1974 and other health and safety legislation and to take reasonable care for the health and safety of yourself and others while on premises. You must observe the same standards of care and propriety in dealing with patients, staff, visitors, equipment and premises as is expected of any other contract holder and you must act appropriately, responsibly and professionally at all times.

You are required to ensure that all information regarding patients or staff remains secure and *strictly confidential* at all times. You must ensure that you understand and comply with the requirements of the NHS Confidentiality Code of Practice and the Data Protection Act 1998. Furthermore you should be aware that under the Act, unauthorised disclosure of information is an offence and such disclosures may lead to prosecution. In the course of your duties you may have access to information about staff or patients or other aspects of the Board's activities, about which you have a duty to maintain confidentiality at all times. In common with all other staff you have, in addition, a responsibility to ensure that information relating to your work and the operation of the Board in general is kept and maintained securely and you are obliged to receive, store and dispose of data in accordance with Board policies and good practice. In particular, the disclosure of commercial or other confidential information which may affect the Board's business interests or endangers the survival of any of its services will be regarded as a fundamental breach of the mutual confidence which must exist between the Board and yourself. You should seek advice from the Medical Director or the Board's Data Protection Officer if you are in any doubt whatsoever. Unauthorised disclosure or removal of information may lead to consideration of termination of the honorary appointment. You are further obligated under this agreement to report to your R&D Office contact person any infringements either by accident or otherwise which constitute a breach of confidentiality. The R&D Office contact person will then be responsible for notifying the data-protection officer for

You should ensure that, where you are issued with an identity or security card, a bleep number, email or library account, keys or protective clothing, these are returned upon termination of this arrangement. Please also ensure that while on the premises you wear your ID badge at all times, or are able to prove your identity if challenged. Please note that this NHS organisation accepts no responsibility for damage to or loss of personal property, with the exception of property handed over and accepted on behalf of the Board for safe custody. You are therefore advised to cover yourself against any such risk by taking out appropriate insurance.

The Board operates a "Tobacco Policy". Smoking is not permitted anywhere within Board premises, grounds or Board vehicles. Failure to comply with this policy will be considered a disciplinary matter.

Appendix H. Ethical Approval and Research Access Letters

While undertaking research through [redacted] you will remain accountable to your employer [redacted] but you are required to follow the reasonable instructions of Dr. [redacted] in this NHS organisation or those given on her/his behalf in relation to the terms of this right of access.

LEGAL POSITION AND INDEMNITY

You are considered to be a legal visitor to [redacted] premises. You are not entitled to any form of payment or access to other benefits provided by this NHS organisation to employees and this letter does not give rise to any other relationship between you and this NHS organisation, in particular that of an employee. This agreement does not affect the terms and conditions of any other employment you may currently hold with another employer, who will remain responsible for you and for any disciplinary matters that may arise.

Your substantive employer will remain liable for your acts or omissions in the course of the research project covered by this letter, and must ensure they maintain appropriate indemnity insurance for this purpose. Where any third party claim is made, whether or not legal proceedings are issued, arising out of or in connection with your right of access, you are required to co-operate fully with any investigation by this NHS organisation in connection with any such claim and to give all such assistance as may reasonably be required regarding the conduct of any legal proceedings.

We may terminate your right to attend at any time either by giving seven days' written notice to you or immediately without any notice if you are in breach of any of the terms or conditions described in this letter or if you commit any act that we reasonably consider to amount to serious misconduct or to be disruptive and/or prejudicial to the interests and/or business of this NHS organisation or if you are convicted of any criminal offence. Where required by law, your employer will initiate your Independent Safeguarding Authority (ISA) registration, and thereafter, will continue to monitor your ISA registration status via the on-line ISA service. Should you cease to be ISA-registered, this letter of access is immediately terminated. Your employer will immediately withdraw you from undertaking this or any other regulated activity. You MUST stop undertaking any regulated activity.

Your substantive employer is responsible for your conduct during this research project and may in the circumstances described above instigate disciplinary action against you.

[redacted] will not indemnify you against any liability incurred as a result of any breach of confidentiality or breach of the Data Protection Act 1998. Any breach of the Data Protection Act 1998 may result in legal action against you and/or your substantive employer.

If you agree to accept this agreement on the terms indicated above, please sign the statement of acceptance and return one copy contract to me at the address overleaf, retaining the other for your own reference. A further copy has been sent to **your main employer's personnel office** for your records.

Yours sincerely

Research and Development Officer

cc: HR department of the substantive employer

Appendix H. Ethical Approval and Research Access Letters

25 October 2014

Holly West,

Research &
Development

Dear Holly,

Letter of Clinical Research Access – only valid until 30/09/2014 for study number 2013/0310 entitled, ‘ Future thinking in looked after young people: The impact of locus of control ‘

The Research Governance Framework for Health and Community Care outlines the responsibilities of both employers and employees who undertake research in a clinical setting. The framework has been compiled by the Scottish Executive Health Department to ensure all research meets high scientific and ethical standards.

This Letter of Clinical Research Access defines the requirements of L (the “Board”), subject to which, you are granted rights of Clinical Research Access to carry out Approved Research in the course of your employment with . Under the terms of this letter you are specifically excluded from undertaking work involving access to patients which has a direct bearing on their care, unless you hold an Honorary Contract with the Board.

As an employee of , on signature of this letter, you will be granted the right of Clinical Research Access which will continue, until such time as permission is withdrawn by the Board, in the circumstances mentioned in the next paragraph, or such time as you cease to be involved in Approved Research activity or cease to be employed in your present capacity.

In the event that you are in material breach of the requirements regarding Clinical Research Access as set out in this letter, or the Board considers that it is in the best interests of its patients, then in either circumstance the Board may withdraw Clinical Research Access with immediate effect by giving you written notice of this.

1. Definitions

“Approved Research”

means research which has not only been approved by your employer but has also received the approval of Health Board i.e. R & D Management approval, the necessary ethical approval and any further statutory approvals. “Clinical Research Access” means access to identifiable patient data, organs, tissue or other material.

Appendix H. Ethical Approval and Research Access Letters

“Confidential Information”	includes all information which has been specifically designated as confidential by the Board and any information which relates to the commercial and financial activities of the Board, the unauthorised disclosure of which would embarrass, harm or prejudice the Board.
“Principal Investigator”	means, in relation to a specific unit of research undertaken in a specific location, the researcher responsible for the overall conduct of that research activity.

2. Confidentiality and Disclosure of Information

You must not divulge Confidential Information to any third party during the period of your research or any time thereafter without the proper authority having first been given.

All Confidential Information belonging to the Board, together with any copies or extracts thereof, made or acquired by you in the course of research shall be the property of the Board and must be returned to the Principal Investigator on completion of the research to which they relate or on the termination of your employment whichever is the earlier date. You will be entitled to retain any copies or extracts made or acquired by you in the course of research for references purposes only, provided that such copies or extracts are held and maintained in accordance with the provisions of the Data Protection Act 1988 and Caldicott principles.

3. Protection of Intellectual Property

The protection of intellectual property is an important matter, and you will abide by the requirements of the Board and in relation to this matter. The Board and NHS deal with intellectual property matters on a case-by-case basis.

4. Obligations Arising from Data Protection Act 1998/IT Security

Particular regard should be given to your responsibility to abide by the principles of the Data Protection Act 1998, a copy of which is available for reference in the Human Resources Department of the Board.

You must comply with the Board's Information Technology Security Policy on computer security, which is available within the Board R & D Department and on the Board Intranet site. Failure to comply with this will be brought to the attention of your employer for investigation/action under the appropriate procedures. In addition failure to comply may lead to temporary or permanent withdrawal of permission to carry out research within the Board.

Patients

In the course of your duties you may have access to Confidential Information regarding patients. You must not divulge such Confidential Information to anyone other than authorised persons, for example, medical, nursing or other professional staff as appropriate, who are concerned directly with the care, diagnosis and/or treatment of the patient. Where, in the course of your clinical research activity, new information comes to light that will or may impact on patient care, you will forthwith advise the relevant personnel within the Board.

Appendix H. Ethical Approval and Research Access Letters

Staff

You must not divulge Confidential Information concerning individual members of staff to anyone without the authority of the individual concerned and the appropriate Principal Investigator.

If you are in any doubt whatsoever as to the authority of a person or body asking for information on patients or staff, or your own authority to divulge information, you must seek advice from your Principal Investigator.

These provisions are without prejudice to the NHS's stated commitments in the NHS Code of Openness. Further information is available from the Board's Human Resources Department.

5. Disclosure of Concerns

If you have any concerns about quality of service, health and safety, use of NHS money, or believe a colleague's conduct, performance or health may be a threat to patient care or to members of staff, you have a responsibility to raise these concerns without prejudice, directly with your line manager or Principal Investigator. If you are unable to, or wish not to raise these concerns directly with your line manager / Principal Investigator, you are encouraged to seek the advice of the Human Resources Department or [redacted] as appropriate.

You are protected against any harassment or victimisation resulting from such a disclosure. Therefore in the event that you are subjected to any form of harassment or victimisation, formal action will be taken against the perpetrators.

Concerns related to any research misconduct or fraud should be addressed similarly.

6. Conflict of Interest

As a general principle, you should not put yourself in a position where your official and private interests conflict, nor must you make use of your official/research position to further your private interests.

7. Research Governance

You are required to observe those requirements of the Research Governance Framework which are applicable and binding on you. The Research Governance Framework is available in the R & D Department and on the Intranet under Organisational/R&D. The framework relates to the management and monitoring, ethics, science, finance, health and safety aspects of research.

8. Health and Safety

The Board has a written Health and Safety Policy. The Board has a duty to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all its employees/individuals who work on the site. As an individual who works on the site, you have a duty to observe safe systems of work at all times, to take reasonable care of yourself and others who may be affected by your activities at work and to co-operate with the Board and others in meeting statutory requirements. Additionally, you are required to report all accidents "near misses"/ incidents to your Principal Investigator and to use any safety equipment provided for your protection.

Appendix H. Ethical Approval and Research Access Letters

Failure to comply with the provisions detailed above, without reasonable cause, will be brought to the attention of your employer for investigation/action under the appropriate procedures. In addition failure to comply may lead to temporary or permanent withdrawal of permission to carry out research within the Board.

9. Hepatitis B

For your own protection, you are advised to maintain Hepatitis B immunity status throughout the period during which you have been granted Clinical Research Access rights if your work brings you into contact with blood, other body fluids or fresh tissue.

10. Professional Registration

If your substantive post requires professional registration you must be fully registered with the appropriate professional body and maintain this registration throughout the period during which you have been granted Clinical Research Access rights. Evidence of this must be produced upon request.

11. Personal Property

The Board accepts no responsibility for damage to, or loss of, personal property. You are, therefore, advised to take out an insurance policy to cover your personal property.

If you need any further advice or guidance on any of the paragraphs set out above you should contact your Principle Investigator in the first instance.

If you agree to accept the conditions indicated above, please sign the statement of acceptance and return to _____ at the Board's R & D Department. A second copy of this letter is attached and should be retained by you for future reference as you will be required to provide this for evidence of clinical research access to each Principal Investigator with whom you work.

Yours sincerely

Research Governance Manager

(DO NOT DETACH)

Form of Acceptance

I hereby accept the conditions set out in the foregoing letter.

Print Name: (Block Capitals)

Employer/Organisation:

Appendix H. Ethical Approval and Research Access Letters

Signature: _____

Date: _____

Appendix H. Ethical Approval and Research Access Letters

Holly West

Our ref: EDU/RESEARCH/TK
Your ref:
If calling ask for:
Phone:
Date: 25 October 2014

Dear Ms West

Access to Undertake Research

Thank you for your application form, requesting access to undertake research with Council, Education Resources.

I am pleased to advise you approval has been granted for you to contact the headteachers of schools in to ask if they will take part in your project

When you contact the headteachers you should enclose a copy of this letter as proof of authorisation. Each headteacher will have the final veto over whether or not his or her school shall participate.

You should ensure complete confidentiality of both establishments and individuals at all times.

It will be necessary for you to have parental consent for pupils to take part in your project (opt-in) and to assist you with this I enclose a copy of the form that you should use and a copy of the notes on parental consent procedure.


We would also request that you provide us with a copy of your research findings once completed.

I wish you every success with your research and if I can be of any further assistance please contact me at the address below.

Yours sincerely

Management Information Assistant

RE: Research Request




To: ☐ WEST Holly;

Cc: ☐

Holly,

I am pleased to advise that South Lanarkshire are happy to support your research. The contact is



Good luck with the research


Regards

Martin

Dr Martin Kettle

Programme Lead MSc Social Work

School of Health and Life Sciences



✕

DELETE

↩

REPLY

↩↩

REPLY ALL

➔

FORWARD

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mark as unread

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Appendix H. Ethical Approval and Research Access Letters

Our Ref: ACC/DW/HW/1213

Your Ref:

Contact:

Tel:

Holly West
Trainee Clinical Psychologist

Housing & Social Work Services
Planning and Development,

Dear Holly

I write to inform you that your Research Access Application has been successful, providing the terms and conditions of the Research Contract you signed are met.

The contact person assigned to you for your research will be [redacted], Service Manager – Corporate Parenting. You can contact [redacted] on [redacted]

If you have any queries or require further feedback regarding the above please do not hesitate to contact me at the above telephone number.

Yours sincerely

[redacted]
Research Assistant

Appendix I. Correlation Matrices for LoC, Depression and Future Thinking Variables

Correlation Matrix for Whole Sample

Correlations												
	Verbal Fluency score	No. of approach goals	No. of avoidance goals	Average likelihood rating	Average control rating	Locus of control scale score	BDI score					
Spearman's rho	Verbal Fluency score	Correlation Coefficient	Sig. (1-tailed)	N	Verbal Fluency score	Correlation Coefficient	Sig. (1-tailed)	N	Verbal Fluency score	Correlation Coefficient	Sig. (1-tailed)	N
No. of approach goals												
No. of avoidance goals												
Average likelihood rating												
Average control rating												
Locus of control scale score												
BDI score												

** Correlation is significant at the 0.01 level (1-tailed).

* Correlation is significant at the 0.05 level (1-tailed).

Appendix I. Correlation Matrices for LoC, Depression and Future Thinking Variables

Correlation Matrix for LAYP Group

Correlations ^a										
	Verbal Fluency score	No. of approach goals	No. of avoidance goals	Average likelihood rating	Average control rating	Locus of control scale score	BDI score			
Spearman's rho	Verbal Fluency score	Correlation Coefficient	1.000	.524**	.181	-.255	-.239	.147	.381*	
		Sig. (1-tailed)		.004	.198	.114	.130	.246	.033	
		N	24	24	24	24	24	24	24	
No. of approach goals		Correlation Coefficient	.524**	1.000	.336	.325	.278	-.282	-.043	
		Sig. (1-tailed)	.004		.054	.061	.094	.091	.421	
		N	24	24	24	24	24	24	24	
No. of avoidance goals		Correlation Coefficient	.181	.336	1.000	.049	.094	-.315	.090	
		Sig. (1-tailed)	.198	.054		.410	.332	.067	.338	
		N	24	24	24	24	24	24	24	
Average likelihood rating		Correlation Coefficient	-.255	.325	.049	1.000	.578**	-.680**	-.314	
		Sig. (1-tailed)	.114	.061	.410		.002	.000	.068	
		N	24	24	24	24	24	24	24	
Average control rating		Correlation Coefficient	-.239	.278	.094	.578**	1.000	-.382*	-.014	
		Sig. (1-tailed)	.130	.094	.332	.002		.033	.473	
		N	24	24	24	24	24	24	24	
Locus of control scale score		Correlation Coefficient	.147	-.282	-.315	-.680**	-.382*	1.000	.496**	
		Sig. (1-tailed)	.246	.091	.067	.000	.033		.007	
		N	24	24	24	24	24	24	24	
BDI score		Correlation Coefficient	.381*	-.043	.090	-.314	-.014	.496**	1.000	
		Sig. (1-tailed)	.033	.421	.338	.068	.473	.007		
		N	24	24	24	24	24	24	24	

*** Correlation is significant at the 0.01 level (1-tailed).
* Correlation is significant at the 0.05 level (1-tailed).
a. Whether looked after or control = Looked after.

Appendix I. Correlation Matrices for LoC, Depression and Future Thinking Variables

Correlation Matrix for Control Group

Correlations ^a									
Spearman's rho	Verbal Fluency score	Correlation Coefficient	Verbal Fluency score	No. of approach goals	No. of avoidance goals	Average likelihood rating	Average control rating	Locus of control scale score	BDI score
		Sig. (1-tailed)							
		N							
	No. of approach goals	Correlation Coefficient	.430 [*]	1.000	.694 ^{**}	.006	-.141	-.030	-.046
		Sig. (1-tailed)	.010		.000	.487	.232	.438	.406
		N	29	29	29	29	29	29	29
	No. of avoidance goals	Correlation Coefficient	.493 ^{**}	.694 ^{**}	1.000	-.009	-.196	.062	-.171
		Sig. (1-tailed)	.003	.000		.482	.154	.375	.187
		N	29	29	29	29	29	29	29
	Average likelihood rating	Correlation Coefficient	-.138	.006	-.009	1.000	.685 ^{**}	-.341 [*]	-.364 [*]
		Sig. (1-tailed)	.238	.487	.482		.000	.035	.026
		N	29	29	29	29	29	29	29
	Average control rating	Correlation Coefficient	-.171	-.141	-.196	.685 ^{**}	1.000	-.348 [*]	-.267
		Sig. (1-tailed)	.188	.232	.154	.000		.032	.081
		N	29	29	29	29	29	29	29
	Locus of control scale score	Correlation Coefficient	.207	-.030	.062	-.341 [*]	-.348 [*]	1.000	.566 ^{**}
		Sig. (1-tailed)	.141	.438	.375	.035	.032		.001
		N	29	29	29	29	29	29	29
	BDI score	Correlation Coefficient	-.109	-.046	-.171	-.364 [*]	-.267	.566 ^{**}	1.000
		Sig. (1-tailed)	.286	.406	.187	.026	.081	.001	
		N	29	29	29	29	29	29	29

* Correlation is significant at the 0.05 level (1-tailed).

** Correlation is significant at the 0.01 level (1-tailed).

a. Whether looked after or control = Non-looked-after



Participant Information Sheet

Young People's Goals for the Future

You are being invited to take part in a research study looking at how young people who have been brought up in different situations think about their future.

This leaflet is designed to give you information about the study to help you decide whether or not you want to take part. Take time to decide and talk to others about it if you wish. If you would like further information, or if you have any questions, please contact me using the details at the end of this leaflet.

Some Questions and Answers

What is this study looking at?

This study is looking at young people's goals for the future and whether people's thoughts about the future are influenced by who they have lived with as a teenager.

Why have I been invited to take part?

You have been invited to take part in this study because you are aged 15-18. You may have been invited to take part because you live with (or used to live with) foster carers or in a children's house. You may also have been invited to take part because you have always lived with your birth parent or parents.

Do I have to take part?

No, it is up to you to decide whether or not to take part. If you decide to take part you are still free to withdraw at any time and without giving a reason. Deciding not to take part or withdrawing from the study will not affect the services provided by the person who gave you this leaflet or the decisions they make.

What will happen if I decide to take part?

Once you have received this leaflet you will have at least one week to decide whether or not you wish to take part. If you decide that you do wish to take part in the study, let the person who gave you this leaflet know.

Appendix J. Participant Information Sheet

I will then arrange to meet with you on one occasion for around 45 minutes. I will ask you about your goals for the future and make a recording of what you tell me. I will then ask you to answer some questionnaires. You can either fill in the questionnaires yourself or you can tell me your answers.

I will meet with you at a place you choose, which might be your home, school or another venue such as a youth club. You can bring an adult with you if you wish.

What are the benefits of taking part?

You may not get a direct benefit from taking part in this study. However, we hope information gained from this research will be useful for helping young people who are struggling to plan for their future, especially those who are being looked after by foster carers or in children's houses.

What are the disadvantages of taking part?

Taking part in this study will require you giving up around 45 minutes of your time.

Will my taking part in the study be kept confidential?

All the information collected during the course of the research will be kept confidential and stored securely. There are strict laws which safeguard your privacy at every stage. Your name will be removed from the data so that you cannot be identified.

What you say during the study will be confidential. The only exception to this is if you say something which suggests you or somebody else is at risk of harm, in which case this information will be passed on to the person who gave you this leaflet and/or other relevant professionals which might include your GP, social services or the police.

What will happen to the results of the study?

The study will be written up as part of my studies and may later be published in an academic journal. When the results are written up, all data will be anonymous and nobody's real name will be included. If you would like to know the results of the study, please let me know when we meet and I will send you a summary of what we found.

What do I do if I have any questions?

If you have any further questions about the study please contact Holly West by phone on: or email: h.j.west@sms.ed.ac.uk or at the address below:

Holly West

If you would like to discuss this study with someone independent of the study team please contact: on: or email:

Appendix K. Letter to Parents/Carers of Control Participants



Holly West

Dear Parent/Carer,

Your child has been invited to take part in a research study looking at how young people who have been brought up in different situations think about their future. They have been invited to take part because they are aged 15-18. They may have been invited to take part because they have always lived with their birth parent or parents or they may have been invited to take part because they live with foster carers or in a children's house.

If your child would like to take part in the study and you consent to them doing so, they will meet with the researcher for approximately 45 minutes at their school. They will be asked about their goals for the future and asked to fill in some questionnaires. An information sheet with further details about the study has been given to your child. If you would like any further information regarding the research, please do not hesitate to contact me on the above telephone number.

If you are happy for your child to take part in the research please fill out the attached consent form and return it to your child's school.

Yours sincerely,

Holly West
Trainee Clinical Psychologist
/University of Edinburgh

CONSENT FORM

FOR PERMISSION FOR A SCHOOL AGE CHILD TO PARTICIPATE IN A RESEARCH STUDY

To be completed by the child's parent or guardian

Please read the following notes carefully before completing the form.

This form must be attached to a covering letter (which you may detach and keep) and should only be completed and returned **IF YOU ARE WILLING** to have your child participate in the research study described in the attached letter.

If you do not complete and return the form this will be taken as implying that you **DO NOT WISH** your child to participate in the study.

ONLY COMPLETE AND RETURN THIS FORM IF YOU WISH YOUR CHILD TO PARTICIPATE IN THE RESEARCH STUDY

PLEASE USE BLOCK CAPITALS

I, (INSERT YOUR NAME)

BEING THE (INSERT YOUR RELATIONSHIP TO
THE CHILD, EG, MOTHER, FATHER, GUARDIAN)

OF (INSERT CHILD'S NAME WITH CLASS/REG)

OF (INSERT NAME OF SCHOOL)

**GIVE PERMISSION FOR MY CHILD TO PARTICIPATE IN THE
RESEARCH STUDY DESCRIBED IN THE LETTER ATTACHED.**

SIGNATURE: _____ DATE: _____

Appendix M. Participant Consent Form



Consent Form

Research study investigating young people's goals for the future

Participant ID:

Contact Details of person taking consent:	
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Please put your initials in the boxes below to confirm that you agree to each statement:

1. I confirm that I have read and understand the information sheet (version: 02; date: 25.10.2013) for the above study.
2. I have had the chance to ask questions.
3. I understand that taking part is my choice and I can say I no longer want to take part at any time, without giving a reason. I know this won't affect my medical care or legal rights.
4. I understand that data collected during the study may be looked at by the researchers and people from the Sponsor or from the NHS who check the research, where it has to do with me taking part in this study. I give permission for these people to see my records.
5. I consent to quotes of what I say during the study being used in any reports of this research and I understand that nobody will be able to tell it is me from these quotes.
6. I agree to take part in the above study.

_____	_____	_____
Name of Participant	Date	Signature
_____	_____	_____
Name of person taking consent	Date	Signature

Original (x1) to be retained in site file. Copy (x1) to be retained by the participant. Copy (x1) to be included in the participant's medical notes or social work file as appropriate.



Future thinking in looked after young people: The impact of locus of control

Thesis research to be undertaken as part of the Doctorate in Clinical Psychology

Chief Investigator: Holly West
Academic Supervisor: Dr Jill Cossar
Clinical Thesis Supervisor: Dr Mhairi Gervais

Abbreviations

- LAYP = Looked after young people (i.e. those young people who are looked after by the local authority in foster homes or children's houses).
- DfE = Department for Education
- BDI = Beck Depression Inventory
- LCSC = Locus of Control Scale for Children
- IV = Independent Variable
- DV = Dependent Variable
- CAMHS = Child and Adolescent Mental Health Service

Introduction

The transition period from adolescence to adulthood is an important time for all young people. At this point in their lives people negotiate the transition from dependence on family to independence, from school to higher education or employment, as well as developing their social roles, identities and relationships. For many young people this transition poses several challenges but, for young people who have been in local authority care, both the transition and the challenges are often much greater. Young people transitioning out of care often do so at a younger age than other young people typically leave home (Scottish Executive, 2004) and often do not have the emotional (Wade and Dixon, 2006) or financial support (Dixon and Stein, 2002) that others may receive.

There has been a great deal of research on the outcomes following transition for young people who have been looked after by the local authority (LAYP). This has shown that LAYP have poorer outcomes in a wide range of areas, including homelessness (Reilly, 2003; Wade and Dixon, 2006) involvement with the criminal justice system (Reilly, 2003), substance misuse (Ward et al, 2003), teenage pregnancy (Ward et al, 2003), education (McClung and Gayle, 2010; Wade and Dixon, 2006) and unemployment (Wade and Dixon,

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2006). Studies have also shown poor mental health among care leavers and high levels of emotional and behavioural difficulties (e.g. Dixon, 2008).

In a review of the literature, Jones et al (2011) highlighted a number of factors associated with poor transition outcomes, including age at first placement, number of placements and behavioural problems, as well as factors associated with positive outcomes, including independent living programs. Despite this wealth of research, there is little understanding about the mechanisms linking LAYP's past experiences, both prior to and after entry into the care system, and their future outcomes.

The theory of learned helplessness suggests one way of understanding how past experiences may affect future outcomes for LAYP. This theory suggests that if a person feels there is no contingency between their behaviour and the outcome they become "helpless", i.e. they stop trying to affect the outcome (Abramson, Seligman and Teasdale, 1978). For example, Klein and Seligman (1976) found that participants who had previously been exposed to an uncontrollable noise were significantly slower to discover how to control an escapable noise and more likely to fail to escape than participants who had previously been exposed to a noise they could control. Therefore, those who had experienced previous non-contingency between their behaviour and the desired outcome were less likely to attempt to affect a similar desired outcome later.

The learned helplessness theory was later reformulated by Abramson, Seligman and Teasdale (1978) to include an attributional component. The authors argued that when people perceive an outcome as non-contingent on their behaviour (i.e. does not predictably follow on from their behaviour), they make an attribution as to why this is. They suggested that these causal attributions can vary on three dimensions: globality, stability and internality. The theory predicts that helplessness will be more generalised if the causal attributions for failures are more global and will be longer-lasting for those making more stable attributions. In addition, they suggest that internal attributions negatively affect self-esteem (Abramson, Seligman and Teasdale, 1978). Ultimately, the theory predicts that those whose causal attributions are more global, stable and internal will have higher levels of depression.

Later studies in the 1980s and 1990s largely supported this theory (e.g. Alloy et al 1984; Firth-Cozens and Brewin, 1988; Lynd-Stevenson, 1996) and extended it to the effects of behavioural non-contingency in children (e.g. Fincham, Diener and Hokoda, 1987; Nolen-Hoeksema, Girgus and Seligman, 1986; Peterson and Seligman, 1984; Seligman et al, 1984). Although some studies highlighted the limitations of the theory in adults (e.g. Houston, 1994) and children (e.g. Hammen, Adrian and Hiroto, 1988), a meta-analysis concluded that the evidence showed a strong correlation between attributional style and level of depression in children and adolescents (Joiner and Wagner, 1995). Among the papers extending the theory of learned helplessness to children was an article by Zimmerman (1988), which suggested that depression in LAYP could be explained by learned helplessness theory. This link is particularly important as depression has been shown to be significantly higher in LAYP than in control samples in a number of studies, including some large-scale studies (Dimigen et al, 1999; Ford et al, 2007; McCann et al, 1996).

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Zimmerman (1988) highlighted the fact that LAYP have often experienced abuse and/or neglect before entering the care system and several changes of placement once in the system. These experiences have one thing in common in that the young person has little or no control over what happens to them. Abuse, whether physical, sexual or emotional, inherently takes control from the child or young person and is unpredictable in its occurrence. Such unpredictability is also a feature of neglect as children whose needs have not been met consistently learn that their behaviour does not reliably result in the achievement of their goal (Bowlby, 1982). It has been well documented that, once in the care system, decisions are often made without consulting the child or young person and therefore, once again, the young person finds that they have little control over what happens to them (Leeson, 2007).

Given many LAYP's repeated experiences of non-contingency between their behaviour and outcomes, it is predicted by the theory that they will have developed a certain level of learned helplessness. It may be, therefore, that LAYP's beliefs about the future at the time of transition play a major role in their future outcomes. A recent study by the Department for Education (DfE) in England and Wales (2010) found that, whilst LAYP had similar aspirations to other young people their age, 'most did not express confidence in achieving their aspirations' and expressed 'a high degree of fatalism' (DfE, 2010; 1). This suggests that LAYP may have a more external locus of control than other young people.

Rotter's (1966; 1975) concept of locus of control refers to a person's tendency to perceive an outcome as the result of his own actions (internal) or due to outside factors, such as luck or fate (external). Barahal, Waterman and Martin (1981) and Allen and Tarnowski (1989) found physically abused children had a significantly more external locus of control than non-abused children. Wiehe (1987), however, found the same in female but not male foster children when compared with non-fostered children. The construct of locus of control appears to be conceptually similar to the internality dimension of attributions from Abramson, Seligman and Teasdale's (1978) reformulation of the learned helplessness theory. In this, internality refers to the extent to which the outcome of an event or situation is attributed to something located within the individual or to an external factor, such as the behaviour of another. Cerezo and Frias (1994) found young people who had experienced physical and emotional abuse had a significantly more negative attributional style than young people who had not had such experiences. Unfortunately, the scale used to measure attributional style in this and other studies does not have sufficient internal reliability to allow analysis of the separate attributional dimensions and can only give overall composite scores (Nolen-Hoeksema, Girgus and Seligman 1992).

Despite the link between LAYP's past experiences and learned helplessness being outlined by Zimmerman in 1988, there has been very little research into learned helplessness in LAYP or the relationship between learned helplessness and future thinking in this population. The more recent survey by the DfE (2010) suggests LAYP's future thinking is characterised by beliefs of uncontrollability and reduced likelihood of the occurrence of positive future events. This therefore highlights the need for a more rigorous investigation of learned helplessness in LAYP and the role that locus of control plays in influencing young people's future thinking.

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MacLeod and colleagues (e.g. Dickson and MacLeod, 2006; Miles, MacLeod and Pote, 2004) have investigated future thinking in other adolescent populations. Dickson and MacLeod (2006) found dysphoric adolescents generated both fewer approach goals (i.e. things they would like to happen in the future) and more avoidance goals (i.e. things they would like to avoid happening) than non-dysphoric participants. Additionally, they believed approach goals were less likely to happen and avoidance goals more likely and gave significantly more reasons why goals would not be attained and fewer reasons why they would. Crucially, this study also found that dysphoric adolescents rated themselves as having significantly lower levels of personal control over goals than the control group.

This study aims to investigate future thinking in LAYP about to transition into adulthood. In particular, whether LAYP have similar beliefs to other young people of the same age regarding the likelihood of achieving future goals and the control they have over this achievement. Furthermore, this study aims to investigate the role that locus of control plays in influencing young people's future thinking. Given the higher levels of depression found in LAYP and the links between depression and future thinking, this study will control for the varying levels of depression in young people.

Research Questions and Objectives:

The principal research objective is to investigate whether looked after young people approaching the transition to independence think about their future in the same way as other young people of the same age.

This objective will be investigated using the following primary research questions:

- a) Do young people who have been looked after by the local authority generate less approach goals for the future and/or more avoidance goals than young people who have been looked after by their birth parent(s)?
- b) Do young people who have been looked after by the local authority rate their approach goals as less likely to occur and/or their avoidance goals as more likely to occur than young people who have been looked after by their birth parent(s)?
- c) Do young people who have been looked after by the local authority have lower ratings of perceived control over their goals than young people who have been looked after by their birth parent(s)?

The following secondary research question will also be investigated:

- d) Does a young person's locus of control mediate the relationship between their care history and future thinking pattern?

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Methodology

Design

This study will use an independent measures design with the young person's care history as the independent variable. In order to investigate research questions a-c, the following outcome variables will be used:

- a) The number of goals young people produce in the approach condition and the number of goals young people produce in the avoidance condition.
- b) The average ratings of likelihood given by young people to their approach and avoidance goals.
- c) The average ratings of personal control given by young people to their approach and avoidance goals.

In order to investigate research question d), young people's score on the Nowicki-Strickland Locus of Control Scale for Children (Nowicki and Strickland, 1973) will be entered into mediation models with scores on the outcome variables from questions a-c as the dependent variables in each mediation model and care history (i.e. whether or not the young person is or has been in local authority care as the independent variable.

Participants

Participants will be young people aged between 15 and 18 years old, half of which will be in local authority care at the time of the study, will be in the process of transitioning out of local authority care, or will have transitioned from care to independent living. The other half of the participants will have no history of local authority care.

LAYP participants will be identified through clinicians working in mental health services for children and adolescents, particularly those working in specialist services for looked after young people, social workers and advocacy workers from voluntary sector organisations. Control participants will be identified by teachers. Young people will be approached by those identifying them as potential participants (hereafter referred to as the 'contact person') and will be provided with the Participant Information Sheet describing the study. Should the young person wish to take part, they will register their interest with the contact person who will inform the Chief Investigator. Letters will be sent to parents of participants who may be taken out of classes for them to give consent to their child participating in the research. On meeting with the Chief Investigator, the participant will be given the opportunity to ask any further questions about the study and will then complete a consent form if still willing to participate.

Inclusion and Exclusion criteria:

- For young people who are looked after by the local authority:
Inclusion criteria:
 - Aged 15-18 years
 - Currently in local authority care or having previously been in local authority care until they reached an age at which they left local authority care in order to live independently
 - The period they have spent in local authority care is at least 6 months.

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Exclusion criteria:

- Do not speak English fluently
- Having a learning disability
- For young people who are looked after by their birth parent(s):

Inclusion criteria:

- Aged 15-18 years
- Currently looked after by, and living with, one or both birth parents or having lived with one or both birth parents until they reached an age at which they left home in order to live independently.

Exclusion criteria:

- Having had a period of time (of any length) in local authority care
- Do not speak English fluently
- Having a learning disability

Experimental Tasks

Goals Task

Following the methodology of Dickson and MacLeod (2004; 2006), participants will be asked to generate future approach goals by giving the prompt 'In the future it will be important for me to...' They will be given a 75 second time period in which to say these. Participants will then be asked to generate future avoidance goals using the prompt 'In the future it will be important for me to avoid...' for which they will have a 75 second time period. Order of approach and avoidance aspects of the task will be counter-balanced across participants. All responses will be tape recorded and noted down by the researcher.

A verbal fluency task will be used to control for differences in participants' ability to generate items in a given time period. Semantic fluency will be used as this test requires participants to generate words according to a general theme or concept in the same way that the future goals task does. Participants will be asked to generate as many items as they can think of in the category 'animals'. In line with the future goals task, participants will be given 75 seconds to do this.

Ratings of Likelihood

Participants will be asked 'how likely do you think it is that you will achieve this goal?' for approach goals and 'how likely do you think it is that you will be able to avoid this?' for avoidance goals. Participants will then be presented with a 10cm line and will be instructed to 'mark with a X how likely you believe this is on the following line between 0 (not at all likely) and 10 (completely likely). For example, if you thought it was equally as likely to happen as unlikely to happen you would put a X in the centre of the line'.

Ratings of Control

Participants will be asked 'how much control do you think you personally have over achieving this goal?' for approach goals and 'how much control do you think you personally have over avoiding this goal?' for avoidance goals. Participants will then be presented with a 10cm line and will be instructed to 'mark with a X how much control you believe you have

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over this on the following line between 0 (no control at all) and 10 (complete control). For example, if you thought you had 50% control over achieving the goal but 50% of what would need to happen to achieve the goal was out of your control you would put a X in the centre of the line'.

Locus of Control

Participants will be asked to complete Nowicki-Strickland Locus of Control Scale for Children (Nowicki and Strickland, 1973). Higher scores on this measure indicate a more external locus of control.

Depression

Participants will be asked to complete the Beck Depression Inventory (BDI; Beck, Steer and Brown, 1996), which will result in each participant having an overall score for depression.

Procedure

Due to the difficulties with literacy which some young people may have, a deviation from the protocols used by Dickson and MacLeod (2004; 2006) will be taken for this research in that participants will give their responses verbally rather than in writing. Participants will therefore be tested in a 1:1 setting with the researcher, although all participants will have the opportunity to have a familiar adult accompany them during the study.

It will be explained to each participant that the study is looking at young people's goals for the future and that all responses will be recorded anonymously. Participants will be informed that confidentiality will be broken only in circumstances where their responses indicate that they or someone else are at risk of harm. In this case, the participant's contact person will be informed immediately and the participant will be informed of the researcher's obligation to do this. All participants will be reassured that this is not a test. It will be made clear to all participants that they are not obliged to take part in the study and can withdraw at any time.

Participants will complete the Verbal Fluency control task and the Goals Task. Participants will then be asked to choose the two approach goals and the two avoidance goals which they feel to be most important for them to achieve. Participants will be asked to rate their belief in the likelihood of achieving these goals and their level of personal control for each of the four goals.

Participants will then be asked to complete the questionnaire measures, which will include the Nowicki-Strickland Locus of Control Scale for Children and the Beck Depression Inventory. Participants will then be asked to fill in a personal details form, including information about their age, gender and ethnicity, as well as details about their current and past living arrangements. This will include questions about who they currently live with and whether they have spent any length of time looked after by the local authority.

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Data Collection

- **No. of goals** – A total number of goals generated in each condition (approach and avoidance) will be calculated for each participant. This follows the procedure used by Dickson and MacLeod (2006).
- **Personal control ratings** – A mean rating of personal control will be calculated for each participant in each condition. Again, this follows the procedure used by Dickson and MacLeod (2006). However, in a slight deviation from Dickson and MacLeod's (2006) procedure, the individual ratings from which the mean will be derived will be calculated by measuring the point on the line at which the X has been marked to the nearest millimetre.
- **Likelihood ratings** - The same procedure as used for the personal control ratings will be used to calculate each participant's average likelihood rating in each condition (approach and avoidance).
- **Locus of control** – Nowicki-Strickland Locus of Control Scale for Children (LCSC; Nowicki and Strickland, 1973). This measure consists of 40 items covering 'interpersonal and motivational areas such as affiliation, achievement, and dependency' (Nowicki and Strickland, 1973; 149). Each item is stated as a question to which the participant is required to answer either 'yes' or 'no'. Examples of items include, 'Do you believe that most problems will solve themselves if you just leave them?' and 'Do you believe that you can stop yourself from catching a cold?'. Nowicki and Strickland (1973) found the LCSC to have adequate internal reliability for young people aged 15-18, with $r = .74$ for ages 14-16 and $r = .81$ for ages 17-18.
- **Depression** – Beck Depression Inventory II (BDI-II; Beck, Steer and Brown, 1996) This inventory consists of 21 items assessing symptoms indicative of depression and is suitable for use with people aged 13 and over. Each item consists of 4 statements each of which relate to a different level of symptom severity and those completing the questionnaire are asked to select the statement which best describes how they feel. For example, the statements for one item are 'I do not feel sad (0); I feel sad (1); I feel sad all of the time and can't snap out of it (2); I am so sad or unhappy that I can't stand it (3)'. Dozois, Dobson and Ahnberg (1998) found the BDI-II to have good internal reliability with a Cronbach's alpha coefficient of .91. They also found a high correlation of .93 between the BDI-II and the original Beck Depression Inventory.

Sample Size

Dickson and MacLeod (2006) compared dysphoric and non-dysphoric adolescents on their personal control ratings for approach and avoidance goals and found an effect size of $d=1.23$ for the approach goals and $d=1.34$ for the avoidance goals. Using the more conservative value of $d=1.23$ for the assumed effect size for this study, a sample size of 18 would be needed for a 1-tailed t-test and 24 for a 2-tailed t-test.

According to Fritz and MacKinnon (2007), in order to calculate the sample size needed to carry out a mediation analysis, it is necessary to have effect size estimates for both the α and β relationships, where α refers to the effect of the independent variable (in this case care history) on the mediating variable (in the case locus of control) and β refers to the effect of the mediating variable on the dependent variable (in this case the future thinking variables of number of approach and avoidance goals produced, likelihood ratings and control ratings).

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Barahal, Waterman and Martin (1981) found physically abused children had a significantly more external locus of control than non-abused children, with an effect size of $r = .57$. According to Field (2005), this is a large effect size and we can therefore assume a large effect size for α . McCabe and Barnett (2000) found a significant correlation of $r = .31$ between young African American adolescents' perceptions of control and their perceived likelihood of achieving their goals. This effect size is considered to be a medium effect size (Field, 2005) and therefore we can assume a medium effect size for β . Fritz and MacKinnon (2007) report that a sample size of 54 is needed for the bias-corrected bootstrapping method in studies with a large effect size for α and a medium effect size for β . This would result in the need for a minimum of 27 LAYP participants and 27 control participants.

Available Population

(Section removed for reasons of confidentiality.)

Analysis

Data for the primary and secondary research questions will be analysed as follows:

- a) 2 separate ANCOVAs:
 - a. IV = Care history, DV = No. of approach goals, controlling for score on semantic fluency
 - b. IV = Care history, DV = No. of avoidance goals, controlling for score on semantic fluency
- b) 2 separate t-tests:
 - a. IV = Care history, DV = Average likelihood rating for approach goals
 - b. IV = Care history, DV = Average likelihood rating for avoidance goals
- c) 2 separate t-tests:
 - a. IV = Care history, DV = Average personal control rating for approach goals
 - b. IV = Care history, DV = Average personal control rating for avoidance goals
- d) Mediation analyses:
 - a. X = Care history, Y = No. of approach goals, M^1 = Score on LCSC, M^2 = Score on BDI
 - b. X = Care history, Y = No. of avoidance goals, M^1 = Score on LCSC, M^2 = Score on BDI
 - c. X = Care history, Y = Average likelihood rating for approach goals, M^1 = Score on LCSC, M^2 = Score on BDI
 - d. X = Care history, Y = Average likelihood rating for avoidance goals, M^1 = Score on LCSC, M^2 = Score on BDI
 - e. X = Care history, Y = Average control rating for approach goals, M^1 = Score on LCSC, M^2 = Score on BDI
 - f. X = Care history, Y = Average control rating for avoidance goals, M^1 = Score on LCSC, M^2 = Score on BDI

Please note: These are **potential** mediation analyses. Analyses will only be carried out on those dependent variables found to be significantly different for the two groups.

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Project Management: Timetable

10) Outline a timetable for completion of key stages of the project. (E.g. ethics submission, start and end of data collection, data analysis, completion of systematic review).

Sep 2013 -	Submit ethics
Sep 2013 -	Begin systematic review
Dec 2013 -	Begin recruitment and data collection
Jan 2014 -	Complete systematic review
Mar 2014 -	Analyse data
Mar 2014 -	Begin article write up
Apr 2014 -	Finish write-up and hand in first full draft

Management of Risks to Project

- Not achieving the required sample size – As discussed in section 8, there are a number of issues associated with recruiting LAYP participants. It was felt that the small population resulted in a high risk of not attaining the necessary sample size to achieve adequate power for the study and discussion with people in the field confirmed this. It was therefore agreed that multi-site recruitment would be pursued in order to minimise the risk of this. Other health boards have therefore been identified. However, if there continues to be difficulty in obtaining an adequate number of participants, other health boards will be contacted. I will also contact voluntary organisations working with this client group, such as ‘Who Cares? Scotland’. Should it still prove to be impossible to obtain the required sample size necessary for the mediation analysis, the other aspects of the study (i.e. research questions a-c) will be carried out and the mediation analysis will be dropped from the study.

Knowledge Exchange

I intend to report and disseminate the results of the study via publication in a peer-reviewed journal and presentation to relevant NHS staff, such as CAMHS services. Furthermore, the resulting thesis will be stored in the University library.

Anticipated Benefits and Implications for Services

It is anticipated that the research will have implications for clinical practice with looked after young people in guiding interventions that could help them in the transition stage. It is hoped that interventions informed by this research will serve to improve the psychological wellbeing of looked after young people at this crucial stage in their lives. In addition, given the direct and indirect impact on mental health of young people’s transition experiences, supporting looked after young people effectively at the transition stage to think about and plan for the future could lead to less need for psychological services for this population in later life and thus reduce the burden on adult services.

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